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IODIFORM IN DISEASE OF THE MAXILLARY AND FRONTAL SINUSES.

BY A. H. SANTY, F.R.C.V.S., NORWICH.

I SEND a few remarks on the use of Pulv. Iodoformi Co., which may be of interest to some of the readers of the VETERINARY JOURNAL. I have had a number of cases of Nasal Gleet, arising from various causes, and have on several occasions trephined the frontal and superior maxillary sinuses, and injected with dilute carbolic acid in the first instance, and after a time with a mild solution of nitrate of silver, or sulphate of zinc. In the majority of these cases I have effected a cure, in a period varying from one to three months. I am of opinion that Pulv. Iodoformi Co. is a most valuable agent, not only as recommended for nasal discharges, but also in certain kinds of wounds, especially where there is diseased bone. I have seen the best results ensue when other agents have failed, by introducing the powder into such a wound every other day with a probe. It may not succeed in every case of Nasal Gleet, that depending mainly on the cause, for it will not remove the diseased fang of a tooth; but where we have a diseased condition of the mucous membrane of the sinuses, and perhaps of some of the delicate bony structures of the head, I believe it will cause healthy action to take place. Certainly it is worth a trial by every practitioner before resorting to the lengthened mode of cure by trephining. I have used the Pulv. Iodoformi Co. in several cases, and in some upon which I had operated (trephined), and have always thought it assisted the

cure, but did not until lately give it the credit to which I think it is due.

About six weeks since, my attention was directed to an aged cart-horse, with an offensive muco-purulent discharge from the off-nostril. I carefully examined the teeth, but could find no disease; the horse had no fever, no catarrhal symptoms, appetite good. On percussing the region of the frontal and maxillary sinuses, this evidently gave pain. I thought it the most marked case of Nasal Gleet I had seen for some time. I told the owner I believed the only cure would be an operation (trephining the sinuses); to which he demurred, saying the animal was not worth the time and expense. I then said I should like to give a new remedy for such cases a fair trial, explaining it to him. This he consented to, and I at once commenced injecting about a drachm of the powder with the insufflator every morning, at the same time prescribing a drachm of the sulphate of iron, to be given in the food night and morning. After a few days the discharge altered in character, becoming thicker, of a better colour, and less fœtid. This improvement continued every day without a check; at the end of fourteen days I discontinued the treatment, and ordered the horse to work, there being no discharge at all. It has been at regular work ever since, and without any return of the discharge.

These few imperfect remarks might induce some other practitioner to give it a trial in a similar case, and I trust with the same success.

LOODIHANA FEVER IN INDIA.

BY J. A. NUNN, M.R.C.V.S., A.V.D., ON SPECIAL DUTY IN THE PUNJAB.

ON the 18th September, while marching through the Rawul Pindee district, I was met at a place called "Tuttee" by a native who is a large landowner, and who has to a considerable extent gone in for horse-breeding. Hearing I would return on the 20th, he promised to collect his mares and young stock for me to see; for, contrary to the usual native custom, which is, to

keep animals tied up by head and heel-ropes, this man allows his stock to run free on a large portion of his land which is unfit for agricultural purposes, only taking them up when necessary from stress of weather. On my return on the 20th, he told me that he had collected his animals from the district, but that on the 18th, while he was away from home, two of his brood mares had died, and that another and a yearling filly had been ill since the 17th. I at once went with him to the place in which the animals were, and found the mare in a moribund condition, suffering from Loodihana Fever (Anthrax); in fact, she fell down dead while I was looking at her. The filly was also suffering from the same disease, but in a much milder form. I gave the owner directions as to the treatment of the filly, the disposal of the carcase of the mare, and the disinfection of the yard; also the removal of two other mares who had been in contact with the diseased ones. The symptoms I observed were those that are usually described as characteristic of the disease, and I shall not enter into a description of them; but what appears remarkable about the case, is that these animals were allowed to run loose in a perfectly natural state, and were born in and had never left the district, which is a high-lying, dry, sandstone formation, with deep ravines caused by the rain, at the bottoms of which there is a scanty growth of grass. The country is but poorly cultivated and thinly populated, the villages lying far apart, and is indeed almost a desert. The only way in which I can account for the outbreak is that on the 13th, 14th, and 15th, a very heavy rainfall had taken place, and during these three days the animals had been confined to a shed that was flooded; and the floor, being clay, had absorbed the rain-water, urine, etc., on which the heat acted when the rain ceased. I believe at one time it was supposed that "Loodihana Fever" only attacked imported animals, and those that were kept in an artificial state; and I am induced to forward this account of the above outbreak, as I am not aware that the disease has ever been recorded as having occurred amongst animals living in such a perfectly natural condition.

VOMITION IN THE HORSE.

BY J. MOIR, M.R.C.V.S., ARMAGH.

I SEND the following case, deeming, from its remarkable features, that it may be worthy a place in the Journal. An aged cart-horse, which was previously in good health but out of work for a few days, had received his usual morning feed; this consisted of gelatinised oatmeal, prepared by maceration in cold water, then boiled. The animal was observed to be (this morning) somewhat duller than usual, when suddenly he manifested symptoms of spasm (intestinal), with the expulsion of gastric contents through his nostrils. Soon after this period I was called in to see the animal. I found the symptoms so intense that it screamed from pain, its appearance being pitiful and hideous; in short, its form resembled that of the camel—most markedly so in the head and neck, the latter being, by the œsophageal contraction, drawn to the left side. These symptoms continued with but little intermission for twenty-four hours. The medical treatment, taken for granted that it was proper or not, as will be seen requires no particular mention, only I found that the giving of curative agents in a liquid form was nullified in action by a quick repulsion through the nostrils. The administration of them in solid form (bolus) offered some chance of effect, as I could not recognise any fragmentary evidence of their being cast out in the nasal discharges; but, after all, if they became dissolved in the stomach, it is doubtful if their entrance into the system, like their stay in the former locality, was not promptly refused. Under these circumstances I felt powerless to correct the reversionary functions of nature, and came to the conclusion that it was better to encourage it by drenching repeatedly the patient with soapy water. In this course I was strengthened the more, as the animal had withstood the enemy so long, and this led me to hope that all was due to functional derangement, not organic lesion.

The amount of food, etc., voided per nostrils, speaking guardedly, could not have been less than four stable pailfuls; the stomach could not have half contained it; therefore the major portion was pumped up from the intestines.

Contrary to anticipation, the animal showed a decided improvement on the third day, and on the fourth a return to its usual good health, but with an empty and reduced carcase. Comparing this case with others I have met with in the horse and cow, but of a milder and more transient form, which readily gave way to treatment, and in nearly all of which the apparent cause was the same, viz., the giving a mixed soup-like drink, or poultaceous mash, causing by quantity and quality indigestion, with derangement of the stomach. Although having notes on Vomiting produced by other causes, as this closes my narrative and as I have already trespassed too far on space, I shall reserve observations I have to make for a future time.

NERVES AND SENSATION, OR MATTER AND MOTION.

BY W. J. MASTERS, M.R.C.V.S., LATE R.A.

As matter and motion form the substance and sum of all human knowledge, the known universe consists of matter of various degrees of property and motion, and, consequently, nerves and sensation are modifications of the same.

The molecules of matter are constantly changing, but not always with the same degree of rapidity, and they cannot be permanently arrested or annihilated. The degree of motion depends entirely upon the relative condition of the different kinds of matter. Varieties of matter possessing dissimilar properties are called elements, and these are classed according to their differences. The modes of motion are called light, heat, sound and electricity. Chemical action and physical changes result from these modes of motion, and they are all known to the mind through the action of the sensory nerves. Light is said to be due to "*undulations of ether;*" heat to "*waves of caloric;*" sound to "*vibrations of matter;*" and electricity to a "condition of matter in relation to the condition of other matter," one kind of matter possessing *something* of an opposite character to something possessed by the other. These

two somethings are called positive and negative electricity, their mutuality (producing a neutralization of condition of the matter) forms the electric current or fluid. Electricity is therefore literally the *language of matter*, as it expresses *being* and *doing*, which is the essential of all language. All matter *is* and *does*, or exists and moves, that forming man being no exception to the rule. His brain exists and thinks while life lasts, and afterwards returns to its former condition. His thoughts vary according to the degree of the movements of the brain and nerve matter,—*i.e.*, sensation results from change in the matter, and sensation leads to thought or action, all really expressing being and doing. The brain, the centre of sensation, consists of a variety of the elements of matter, formed into cells analogous to galvanic cells. The sensations resulting in the brain cells alone do not cause consciousness, as they take place during sleep as well as at other times, but they undoubtedly occur and result from the change taking place in those cells or elements of matter, just in the same way that electricity results from the change in condition of the matter of which the cells of the battery are composed. And this must necessarily be the only motion or sensation belonging to the *brain proper*. The brain is, therefore, precisely the same kind of mechanical machine, if it may be so called, as the galvanic battery made up of galvanic cells, and bears exactly the same relation to a galvanic battery as one battery bears to another. And during sleep it represents a battery detached from its telegraph wires or nerves. All the ganglia of the nervous system have precisely the same properties as those described as belonging to the *brain proper*, varying only in degree of power according to their size and quality. Nerves are the conducting media of the positive and negative somethings that cause sensation, and in this resemble telegraph wires. Collective sensation, called thought, necessarily cannot originate within the brain, as *all knowledge is by experience*, and every sensation of which the mind is cognizant depends upon the condition of one or more of the five sensory nerves. These nerves are commonly known as the senses of sight, hearing, smell, taste, and touch. To recapitulate: all we know of the mind is that it consists of collective thought depending upon

the relative condition of the brain and nerves and the matter outside the brain, and not originating within the brain. The *material* mind may, therefore, be defined as—a condition of brain and nerve matter depending upon a condition of other matter situated without the brain, motion being the expression of that condition. It is consequently identical with electricity; and it necessarily follows that *light, heat, sound, odour,* and *taste,* result from one and the same cause, varying only in degree, and that cause *motion of the molecules of matter* producing *undulations, waves,* or *vibrations,* of various degrees of velocity, light being the quickest that we can measure, the others resulting in the following order,—heat (the vibrations producing the sensation of heat are quicker than those causing the sensation of sound), sound, odour, and taste, producing all the innumerable varieties of sensation experienced.

This appears to me to be the only explanation of chemical affinity and all the physical phenomena known to us.

NOTES ON HILL'S "BOVINE MEDICINE AND SURGERY."

A Reply to A. E. Macgillivray, by the Author.

Mr. Macgillivray's review of the above work being *unsolicited,* must be my excuse for an answer.

Though far from averse to criticism, I think I may venture to observe that the critique in question will be considered by persons conversant with such matters *a display of questionable taste.*

I am glad Mr. Macgillivray agrees with the dedication, notwithstanding his perceptible sneer that I should have quoted so often from the brightest literary star our profession contains.

Concerning the quotation on Tubercular Stomatitis, nothing was further from my mind than an intentional ignorance of the origin of the said quotation; indeed, a reference to the last paragraph on p. 153 should convince even Mr. Macgillivray that I have no desire to hide his light under a bushel.

In the last paragraph of his critique, Mr. Macgillivray falls into

a trap of entirely his own making, and the reason given for his disappointment is childish in the extreme; because if he will refer to the specimen circular sheet, one of which I understand was sent to every member of the profession, he will find the "illustrations" applied to the book, *independent* of the appendix, and were *never* advertised as belonging to the latter prior to its publication.

No reasonable man could expect an appendix of thirty pages, and on such a subject, to be copiously illustrated with "woodcuts and coloured plates."

No one will welcome another work on Bovine Pathology more than the author of the one which has not come up to Mr. Macgillivray's expectations, and if that gentleman will use his literary ability in this direction, I shall be pleased to enter my name as a subscriber—plates or no plates—and not even excepting the unintentional transposition of the title by the publishers, of which I was not aware until pointed out and made so much of in this *unsolicited* critique.

Finally, I have at all events the pleasure of thanking Mr. Macgillivray, on the part of my publishers, for the compliment paid to them in the first two lines of his critique, and at the same time to assure him it is neither their intention, nor the author's, to deprive him of the proverbial "bit o' siller" if he desires to return his copy of the work.

N.B.—Since writing the above, I find Mr. Macgillivray was a subscriber for my work, and had his copy at subscription price, and therefore knew perfectly well when he wrote his critique that he had *not* bought the book on the advertisement of a copiously illustrated appendix. I regret the necessity of this *exposé*, but truth is truth, and had Mr. Macgillivray borne in mind the old proverb that "error is always in haste," he would probably have thought twice before he raised an accusation against an advertisement which appeared *after* he had purchased his book. "Error, hough blind herself, sometimes bringeth forth children that can see."

ANTHRAX IN CACHAR AND MANIPUR, INDIA.

BY J. GRIFFITH EVANS, M.D., ARMY VETERINARY INSPECTOR, MADRAS.

(*Continued from p.* 308.)

"The Chatla Fen plays so important a part in the physical geography of Cachar, that an account of it as it appears in the rainy season, and of the land-making process which is steadily going on in its swamps, may not be found uninteresting. The Barak river enters Cachar from the east as a considerable stream, overcharged with silt, and in its course through the district it receives the torrents from the Naga hills on the north, and the Lushai territory on the south. As soon as the periodical rains set in, both the Chatla and the Hailakandi Valleys turn into swamps. For a time they manage to discharge a good deal of their water into the Barak; but as this river receives its freshes from the eastward, it rises above the level of the two valleys, and instead of relieving them of their drainage, pours its own floods into them. Its rise and fall are so sudden, that within twenty-four hours the direction of the water changes, and the current which in the morning was streaming out of the marshes into the river, comes rushing back before night. The outward stream is of the clear brown colour of marsh water, which is charged, indeed, with organic matter, but has deposited in the swamps *en route* whatever silt it brought from the Lushai hills. On the other hand, when the Barak rises above the level of the fen, it sends a thick muddy torrent out of its main channel heavy with silt, and the colour of pea-soup. The inundation spreads over the vast expanse, swelling the marshes into a wide and deep lake, from which rise little conical isolated hills, with trim rows of tea-bushes on their slopes, the coolie lines half-way up, and the planter's neat mat cottage on the summit. Everything else is submerged, except here and there a grove of *higil* trees, whose dark green tops stand up like laurel bushes above a depth of fifteen feet of water. As long as their highest branches can breathe the air, these trees will bear any amount of inundation. When the river subsides, the stream again turns from the fen into the Barak. But, meanwhile, the muddy river water has

deposited its silt, and gradually passed through a pale straw colour into a light or deep brown. It leaves behind it a layer of fresh slime, and by innumerable repetitions of this process, the bottom of the fen gradually rises. The fishermen say that in some places the depth of water in ordinary floods decreases at the rate of eighteen inches every ten years. The process of land-making thus goes on age after age, the lakes gradually shallowing into fens, the fens into reedy swamps, and the swamps into marshy prairies, covered with coarse grass. At present the Chatla Fen exhibits the process in all its stages. It now contains about sixty deep pools, in which the filling-up stage has not yet gone far enough to admit even of the longest-stemmed aquatic plant rising to the surface. These pools, the fishermen say, were formerly ninety in number, but many of them have passed into the fen stage, and almost all of them have grown shallower within the memory of a single generation. Meanwhile, the shallow marshes slowly rise up into dry land, offering rich crops for the most careless tillage. At the end of the rainy season the dry land emerges in mud and wild disorder. As far as the eye can reach, all is unformed chaos; one might expect to see a megetherium, or other vast pre-Adamite monster, slide down some slimy bank into the quagmire. . . . . In the cold weather the ground is broken up by cracks, ravines, beds of silted-up rivers, muddy holes, and quagmires."

The hillocks of this region, called *tilas*, which divide the fens, and upon which the tea is cultivated, are formed of conglomerate gravel, and a fine sandy mould. "The tea plant requires for its suitable growth land upon which stagnant water may not lodge around its roots, and which is not subject to frequent inundations; and, therefore, tea gardens are necessarily situated on elevated land, the soil of which should be of a porous description. The hilly lands (on the plains) in Cachar almost invariably consists of this class of soil, which is of a slight reddish colour and is composed generally of about one-third porous clay and two-thirds finely-divided sand. The soil of the plains surrounding the hillocks and plateaux is altogether unfit for the tea plant, as it contains a very small proportion of sand, and does not allow water to percolate readily through it."

12. *Importance of the above Description.*—The fact of the porous and retentive soils being arranged as they are in Cachar is of considerable interest and importance in relation to some theories regarding the cause of Anthrax, therefore it deserves close attention.

13. It has often been observed in Bengal, that when Anthrax Fever breaks out among the horses of a regiment or battery, whether in stables or in camp, if they be moved to a higher ground, or to a more arable, non-alluvial soil, no fresh cases will occur after an interval of five days, the five days being the period of incubation allowed for those cases which received the infection just before the move; the inference being that the virus is located in the stable floor, or in the soil of the camp, the worst considered soil being alluvial, that the area of infection is very limited, and that it is not conveyed up hill, or on to a porous arable ground a short distance off.

14. In Cachar we find a plain of retentive soil, the worst kind of alluvium, with many steep-sided hillocks and plateaux of excellent porous arable soil rising 50 to 250 feet above the alluvium. Such contrasts exist nowhere in Bengal. The difference between arable and non-arable land there is comparatively very small—the whole of the plain of the Ganges valley is, in fact, nothing but alluvium, some parts of which are still subject to annual inundations during the rains, while others have not been so for many generations. The rising grounds at anthracoid stations in Bengal are not to be compared with the hillocks and plateaux of Cachar. From the observations made on the plain of the Ganges valley, we might think that Anthrax in Cachar would be confined to the ponies kept on the retentive alluvium of the fens and rice-fields, and that the ponies kept on the tea estates, situated upon the porous hillocks and plateaux, would be safe from the disease. But the fact is otherwise. The ponies kept by Europeans on the tops of the hillocks and plateaux have the disease nearly, but not quite in such large proportion, as the ponies of natives kept below upon the alluvium.

15. By the returns received from the tea estates of Cachar through your office, I find eighteen centres of the disease, which are very evenly distributed between the plateaux of the north and the

hillocks of the south, which is contrary to what I expected; for I thought it would be more on the south side, owing to the annual increase of alluvium in the fens surrounding the hillocks, as described above. The returns are not absolutely correct, owing to the change of managers and a want of records, but I think they approximate the truth near enough for the practical purpose required. By adding up the returns of the gardens where the disease has been, and eliminating doubtful cases, I find that 23·935 per cent. of the average number of ponies belonging to Europeans, and 26·530 per cent. of the average number of those belonging to the natives, employed on the gardens, died of Anthrax during the past five years.

16. The importance of this result at the present stage of inquiry, is in the fact that the ponies of Europeans are kept at or near the tops of the hillocks and plateaux, while the ponies of the natives are kept on the retentive alluvium of the plain below. It was impossible to get any approximate ideas of the number of ponies lost by the disease belonging to natives not employed on the plantations, but there is abundant evidence to show that their loss has been very great. These ponies are also kept on the low clay lands with few exceptions.

17. *The Virus conveyed up hill.*—If the virus is a product of the retentive alluvial soil, or of the stagnant water upon that soil, it is evident that it must be carried to the tops of the hillocks and plateaux by some means, and in many instances the air is the only conceivable way of transit. There are dense fogs rising every morning during the cold season from the fens, covering most of the low hillocks, and extending as far as the Barak, but very seldom reaching the table-lands of the north side; it seldom extends even upon the rice-fields north of the river.

18. *Conditions at Gauhati.*—Gauhati is situated on the south bank of the Brahmaputra, where the river is over a mile wide. The soil is composed of consolidated mud, the ancient deposit from the river, upon granite rock, excepting a small portion close to the river opposite the Dāk bungalow, where the granite crops above the alluvium, and is covered with a layer several feet thick of stiff red clay, such as forms the soil of the hills of the district. The land slopes down from the river side until it reaches

the stiff blue clay of the rice-fields about a mile distant, and these extend further back as a swampy plain for six miles—to the foot of the hills on the road to Shillong. In the rains these rice-fields are all under water, and the inundation extends for many miles to the right and left owing to the back water from the Brahmaputra, a branch of which, if not the main stream, came down in former days that way behind the place where Gauhati is now situated, instead of in front of it. There are low hills all about this region, formed of granite and red clay, covered by dense forest jungle. The place is so subject to malarious fever that the seat of the Assam Government was moved from there to Shillong some years ago. Very thick fogs coming from the swamps envelop the town every morning in the cold season.

19. The bungalows at Gauhati are in compounds on roads running parallel with the river. There are five compounds with stables in the front row, and in four of these the disease has not yet appeared, though it has proved fatal in every other stable in the station. This exemption I shall endeavour to explain presently, when I come to the subject of water, but now I wish to point out that the only stable where the disease appeared in the front row, on the river side, is in the compound mentioned in par. 18, situated opposite the Dāk bungalow on the granite rock and non-alluvial red clay, raised higher than any other stable in the station. The ponies of the natives are kept in the low grounds to the rear, and on both sides of the part occupied by Europeans; the disease was very fatal among them during the epizootic season of 1878-9.

20. *Conditions at Nongpoh.*—Nongpoh is the half-way station on the road between Gauhati and Shillong, situated in a small valley, about a hundred yards wide at the bottom, surrounded by low hills of granite and red clay soil covered with dense tree jungle. There is a small lake or pond, formed of the water oozing from a swampy marsh, which runs a little way up the valley, and the adjoining valleys on both sides are also swampy. Thick fogs rise every morning from the swamps. The few natives who reside there, as well as travellers who stop over-night, are extremely subject to attacks of malarious fever.

21. *Conditions at Shillong.*—(Shillong is sixty-three miles from

Gauhati.)—Anthrax Fever has been very fatal at Nongpoh, and ponies which have been detained there a few days have developed the disease at Shillong within a period of six or seven days of incubation. But the disease has not spread at Shillong, no case having occurred there which was not imported from Gauhati or Nongpoh. Shillong is situated upon sandstone rock, 4,900 feet above the sea (Nongpoh is about 1,800 feet), the country is almost entirely free from swamps, and there is no jungle. It is free from malarious fevers, and well supplied with good running water.

22. *Cause of the Disease in Bengal, according to the Principal Veterinary Surgeon's Observations.*—The Principal Veterinary Surgeon in India, judging from observations made at the chief centres of the disease in Bengal and the Punjab, is of opinion that by far the most common cause of the disease is the saturation of the alluvial soil of the stable floor or camp where horses stand, with urine, and he believes that alluvial stalls become unsafe within one month when occupied by horses doing ordinary work. Certain it is that Bacilli, to all appearance under the microscope like those of Anthrax, will readily develop in urine under favourable conditions, though they have not yet been found to cause the disease, or to multiply in the blood after inoculation. They appear to be free from virus, but it is, nevertheless, perhaps possible that they may acquire virulence under certain favourable conditions not yet discovered. A few years ago all the military stables in Bengal Presidency were floored with alluvium, and it was very common to allow the urine to soak without restraint; even vessels were placed in the ground to retain the urine as much as possible within a limited compass not far below the surface, and they were allowed to remain there many months. When they were removed for an exchange the stench was horrible. It is a native custom, and I have found it adopted in a Bengal cavalry lines so recent as two years ago. When an old Bengal battery was relieved at a station by the Royal Artillery, the vessels were left in the ground unknown to the officers trained in England, and, unsuspected, remained undisturbed for several years in many cases. They were generally found to pollute the ground on the outbreak of Anthrax Fever in the stables, when the flooring was raised for inspection, and they got the blame for the disease. It is a wonder

that Anthrax was not much more common and more fatal in those days. Since the Principal Veterinary Surgeon in India called the attention of the authorities especially to the subject, the sanitary condition of the stable floors has been greatly improved, and every care is now being taken, by the frequent renewal of the soil, and by using dry earth to soak up the urine as soon as possible after it has been passed, etc., to prevent percolation. Stations at which the disease was very fatal among cavalry and artillery horses when the stables had the common alluvial earth, flowing often saturated with urine, have been free from the disease since "pucka," almost impermeable flooring, was laid down. I therefore directed my attention particularly to know whether the theory of the Principal Veterinary Surgeon would account for the disease in Assam.

23. *Stables in Assam.*—The stables are usually made of bamboo matting, well ventilated, and the flooring on the whole in fair order, raised, well drained all round, and not impregnated with urine to any great extent. Those of Europeans on the tea gardens in Cachar are always on the sandy hillocks or plateaux, high up above the alluvial soil. But there is a practice too common both in Cachar and in the Brahmaputra Valley, of either planking the floor, or paving it with pebbles, or macadamizing it. I always found those stables smell worse than others which had an even earth flooring well rammed and frequently repaired. The planks allow the urine to pass between them and to saturate the surface soil, so that in every case when I got the planks, raised for inspection, I found the surface soil damp and stinking. The practice of flushing these floors with water makes bad worse, for it cleans only the upper surface of the planks while it hastens the rotting of the under surface. Stable floors cannot be kept too dry. The planks keep the ground damp and harbour impurities. The pebbles of the paved stalls and the broken stones of the macadamized flooring also allow the urine to percolate below them ; they lodge a great amount of decomposing organic matter, and keep the subsoil impure. It is far better not to lay stones of any kind on the floor unless they be thoroughly cemented and made impervious to water.

(*To be continued.*)

Editorial.

THE ARMY VETERINARY DEPARTMENT AND MILITARY HONOURS.

Among the numerous more or less serious causes for complaint continually urged in this Journal by officers of the Army Veterinary Department, was their rigid exclusion from those honours, privileges, and distinctions so freely bestowed on other gentlemen holding commissions in her Majesty's forces, and especially for war service. The disabilities, in one form or another, under which our army colleagues have laboured have indeed been very grievous and humiliating, and have doubtless had a tendency to produce that discouragement, that heart-sickness which cometh from hope deferred. Notwithstanding the great improvement that has been in operation for so many years in the social, intellectual, and professional position of army veterinary surgeons; and also notwithstanding the fact that for more than fifty years they have performed their duties in peace and in war with zeal and scrupulous fidelity—thus greatly contributing to economy, efficiency, and success in the administration of the army, whether in barracks or the field—all went for nothing, and they have been kept in the background, treated with absolute indifference, and their services ignored when honours and rewards were lavished on other officers, many of whom had not half the claim to them that our colleagues could have shown.

In recent times this painful and degrading position of the army veterinary officers has become all the more marked, because of the greater frequency of those little wars in which this country is obliged to engage in some part or other of the world, and the increasing liberality, or rather profusion, with which the merits of all other officers were acknowledged. Thus it has happened that in the Crimea, India, China, New Zealand, South Africa, and elsewhere—no matter how well the veterinary staff may have performed its duties, nor how strongly and emphatically generals and commanding officers may have testified to this fact—nothing was bestowed, and those who had hoped to be equally rewarded with others who had done no more, were relegated to the cold shade of neglect. The late wars in South Africa brought this injustice into greater prominence, and produced a feeling of astonishment, indeed something akin to disgust, not only in the Department, but throughout the army. So energetically was the matter at last taken up, that the authorities who have to arrange these matters appear to have been fairly shamed into making some show of recognition, and amid a shower of C.B.'s, extending, it would almost appear, to every one who had done anything in the way of duty, the officer who acted as principal veterinary surgeon in South Africa, and who held the relative rank of lieutenant-colonel, was awarded the lowest class of pension—that of a quarter-master.

The expedition to Egypt imposed a severe strain on the Department, and in spite of the previous unfair treatment to which they had been subjected, it was greatly to the credit and showed the patriotic spirit of

the veterinary officers, that they readily obeyed the call of duty, and even volunteered for what they might well know—judging from previous experience—would be a thankless task. Their duties on the voyage to Egypt, during the campaign, brief though it was, and again home, were of the most exacting and exhausting character; yet they performed them in such an efficient, successful, and praiseworthy manner as—one and all—to elicit the admiration of every officer under whom they served, or who observed their energy, skill, and self-denial. Indeed, in a campaign in which nearly every department has been accused of shortcomings, or has been found faulty in its working, the Veterinary Department alone has been proclaimed satisfactory and successful in the field, and has largely contributed to the rapidity and success with which this latest little war has been accomplished. The duties of the veterinary surgeons were varied and extremely heavy, and this, together with exposure to the climate of Egypt at a most unfavourable season of the year, in addition to semi-starvation and mal-hygiene, has had the effect of rendering nearly every one of them invalids to a greater or less extent. If ever officers deserved approbation and reward, surely they were our army colleagues! But no. In the despatch sent home by the general in command, containing the names of those he desired to bring to notice, almost every department (and among these the departments which had notoriously failed) was represented by a number of officers, while the Veterinary Department was passed over with the remark that it had been well administered by the principal veterinary surgeon in the field—Mr. Meyrick. The amount of chagrin and vexation experienced when it was found that officers who had toiled and won golden opinions remained unmentioned, can scarcely be conceived—though it was only the treatment they had been accustomed to.

On November 17th appeared the *Gazette* announcing the honours and rewards for services in Egypt, and perhaps such a list—considering the small extent and short duration of the military operations—had never before been witnessed. And here, again, it was painfully apparent that the valuable services of veterinary officers were studiously ignored. Only one name appears—that of Mr. Meyrick, who, with two or three other officers, is placed at the bottom of the list in an *extra* class of the third grade of Companionship of the Bath; while officers inferior in service and in rank are put above him in the ordinary class: just as if this comparatively small honour could not be gracefully conferred, but must carry with it the sting of humiliation. He also appears as the recipient of the third class of the Osmanieh—awarded to a large number of officers by the Khedive of Egypt. In the downpour of decorations and promotions, *only one officer of the Veterinary Department, which has excelled all others for the manner in which it has performed its onerous duties, is selected for recognition!* And it must be remembered that there were no fewer than twenty-six or twenty-seven veterinary officers in Egypt.

To show how unfairly honours have been awarded—even leaving efficiency out of consideration, and taking only numbers into reckoning—we will glance at their distribution.

Of the officers of the General Staff, about one hundred and forty in

number, *all* have received the Osmanieh or Medjidie (a Turkish order), some forty the C.B. or some other order of Knighthood, and about fifty-five have been promoted to higher rank. Of the Commissariat, fifty-five in number, three have been made C B.'s (one a K.C.B.), three have been promoted, and no fewer than thirteen received decorations from the Khedive. Of the Medical Staff, numbering one hundred and sixty, four have been made C.B.'s (one a K.C.B. *per saltum*), two C.M.G.'s, eight have been promoted, and fourteen have received the Osmanieh or Medjidie. Of the eleven officers of the Ordnance Store Department, one has been made a C.B , three have been promoted, and five have been decorated by the Khedive.

This brief summary will afford sufficient evidence that it is hopeless for veterinary officers, strive as they may, to receive fairness, or even notice; and that if they desire honours or rewards, they are much more likely to obtain them by entering the army as private soldiers carrying a rifle and a knapsack, or by joining any other commissioned branch of the army in which scientific knowledge and expensive training is unnecessary.

If we expressed ourselves as grateful that one of our number has at last been made a C.B., we would belie our feelings in the matter, or at any rate confess ourselves as thankful for very small mercies—seeing the way in which the veterinary officers of the expedition, as a body, have been treated in this instance.

The head of the Army Veterinary Department has exerted himself in a way that might be equalled, but certainly could not be excelled to promote its efficiency, increase its utility, and thus better serve the public interests in peace and in war. For now nearly seven years—during which he has had to provide and arrange for four wars—he has laboured at his task, and so far with astonishing success. Yet while others in a similar position have received Knighthood,, or the by no means uncommon distinction of C.B., he remains as he began, perhaps consoled by the reflection (a consolation which many other members of the Department must be content with) that he has faithfully done his duty, and that those whose services have been royally recognised have done no more.

But we must not close this article without warmly acknowledging the generous and kindly feeling evinced towards the veterinary officers serving in Egypt, by many general and other officers who did all that lay in their power to obtain for them a fitting reward. Even members of Parliament and the public press have taken up the cause of the army veterinary surgeons, and probably it is from these quarters that they must look for that influence and support which will perhaps ultimately enable them to be put on an equal footing with other officers whose functions are less arduous, and certainly no more important or necessary to the success of a campaign.

But it must be remembered that the entire profession, as a body, can do much to hasten the advent of that time. The Army Medical Department not very long ago was treated very much as the Veterinary Department now is,—but the medical profession, and especially the teachers in the medical schools, soon altered the position of their military col-

leagues, and the result is witnessed not only in the *Gazette* we have been criticising, but in a score of other ways. In this, as in everything else, the profession has its welfare in its own hands.

THE EGYPTIAN CAMPAIGN.

THOUGH no definite statements have yet been made with regard to the losses among the horses during the active operations in Egypt, it will probably be found that these have been somewhat heavy, comparatively; the number actually killed in action, especially in the artillery, being considerable, and that of those dead from exhaustion through fatigue and starvation being greater. Glanders was discovered to exist in the 6th Bengal Cavalry on its arrival in Egypt—the regiment had the disease before it left India—but fortunately rigid precautions were adopted, and the malady did not spread. Rinderpest was introduced by Russian cattle from Odessa, but as the veterinary staff were on the look-out for it, it appears to have been quickly suppressed. Among the horses remaining in Egypt there has been very much sickness, those in barracks at Cairo suffering most severely—the malady being aggravated by the filthy condition of the stables and their environs. The nature of the disease has not yet been exactly determined, but it is described as a malärious fever. Lower Egypt is not a good country for horses—particularly in the Delta of the Nile, and it is certain that English troopers will not resist the climate for any length of time; so that recourse will probably be had to native Arabs, as remounts for the cavalry at least.

Of the horses which have returned, though many were in wretched condition, yet they have, as a rule, much improved, with the exception of those of Borrodaile's battery of Horse Artillery, now stationed at Coventry, and those of the 4th Dragoon Guards, quartered at Brighton and Shorncliffe. These horses had a very severe time of it in Egypt. Those of the 4th Dragoon Guards appear to have had altogether exceptional hardships. Arriving at Ismailia from England, the regiment was detained on board ship there for some days. When at last it was ordered to disembark, owing to the distance of the ship from the shore, from morning until midnight was occupied in landing the horses. This task had only been completed about an hour when the order to stand to horses was sounded, and the regiment marched at three o'clock in the morning with only corn, and that in the nose-bags. A few hours afterwards the action at Mahsameh took place, and what between exhaustion (through being out of condition, and the fatigue) and the intense heat, the horses kept falling about, and fourteen died from these causes, while fourteen were killed. No forage was obtained until the following day, and while the horses were suffering much from hunger and prostration, their riders were little better off. With the exception of outpost and reconnoitring duties, a rest was allowed here, until the affair of Kassassin, on which occasion the regiment was away from camp for twenty-four hours. Until Tel-el-Kebir the duties were heavy and irregular, and forage scarce. Parading early and marching with the other troops, during that action the regiment galloped for three miles, and then started for Cairo; pushing on all day, halting for only two or three hours during the night, and off again at day-dawn, it arrived at that city towards evening—having traversed between seventy-three and seventy-eight miles in the two days, and with only a little forage. The horses were never unsaddled from the day of Kassassin until arrival at Cairo, and they carried men nearly as large and heavy as the Life Guards. Only this regiment and the 13th Bengal Lancers arrived first at Cairo, the next arrival being Borrodaile's battery, which had endeavoured to

accompany these regiments, at the expense of terrible distress to the horses in dragging the guns through deep sand for such a long distance. At Cairo the only forage for some time was a little indigestible barley and straw.

Before anything at all like recovery from these hardships had taken place, these artillery and cavalry horses were sent home, and soon after reaching barracks, the weather set in cold, wet, and windy. The great debility from which they were suffering predisposed them to inflammatory attacks, due to the change of temperature, and these were manifested in the form of acute rheumatism, particularly of the limbs and muscles of the loins, and Pneumonia. These diseases did not offer any special features.

It is probable that very many of the horses are completely broken down in health, and will not be fit for further service as troopers. The anæmia or bloodlessness from which they suffer is well marked in the paleness—almost whiteness—of the mucous membrane of the nostrils and eyelids.

THE ROT IN SHEEP, OR THE LIFE-HISTORY OF THE LIVER-FLUKE.

BY PROFESSOR A. P. THOMAS, OXFORD UNIVERSITY.

(From *Nature.*)

THE winter of 1879-80 was marked by a widely-spread outbreak of the liver-rot amongst our sheep. The losses during that winter were estimated at three million sheep, or about one-tenth of the total number in the United Kingdom, and during the following winter the losses were equally severe. It had long been known that the disease was due to the presence in large numbers of a parasite called the liver-fluke (*Fasciola hepatica*) in the liver of the affected animals, and that the parasite invaded sheep or sometimes other animals allowed to feed on wet pastures, and especially on flooded ground. But notwithstanding that the question had been repeatedly investigated by numerous zoologists, including Prof. Leuckart, so well known for his researches on parasites, the manner in which the disease was incurred remained a complete mystery. It was known indeed that the animals most nearly allied to the liver-fluke, the digenetic Trematodes, presented an alternation of generations, and that they possessed larval forms infesting various species of molluscs. These nurse-forms, as they are called, produce internally larvæ, usually tailed, known as cercariæ, which leave the nurse and encyst themselves in some other mollusc or in aquatic insect larvæ, etc., and remain there quiescent, only reaching maturity if swallowed together with the animal harbouring them by some suitable vertebrate host. Such is a typical instance of the development of a trematode with alternation of generations, but there is a great deal of variety in the life-histories of the different species. It was supposed that the liver-fluke had a somewhat similar life-history, but all attempts to discover what mollusc served as intermediate host had been fruitless.

The Royal Agricultural Society of England was induced by the heavy losses of sheep in 1879-80, to offer a grant for the investigation of the natural history of this most destructive parasite. I undertook the research, and the results of my work during the summer and autumn of 1880 were published in the Journal of the Society for April, 1881. Certain slugs had been suggested as probable bearers of the larval form of the liver-fluke, and I was able to show that these conjectures had little evidence to support them, and suggested that *Limnæus truncatulus* was really the intermediate host, or at least one of the intermediate hosts of the liver-fluke. For on the Earl of Abingdon's estate at Wytham, I examined thoroughly a clearly circumscribed

area of infection situated on the side of a hill far above the reach of floods, and found that almost the only species of water-snail occurring on the ground was *Limnæus truncatulus*, found in a boggy spot. This contained an interesting form of cercaria, produced in a cylindrical redia, or nurse-form provided with digestive tract.

The free cercaria had a body of oval form, about 0·3 mm. ($\frac{1}{85}$ in.) in length, but was of very changeable shape. The two suckers characteristic of the adult forms of the family of the *Distomidæ* were of nearly equal size, the oral sucker about terminal, and the ventral sucker near the middle of the ventral surface. The anterior part of the body was covered, at least in the most mature examples, with exceedingly minute spines. But the most striking character of the cercaria was due to lobed lateral masses extending the whole length of the body on each side of the middle line. These lobed masses were an opaque white from the multitude of granules composing them. The cercaria had a tail, which, when fully extended, was more than twice the length of the body. It was exceedingly active, but soon came to rest, showing a strong tendency to encyst itself on surrounding objects. It contracted so as to assume a rounded form, and exuded a mucous substance, containing numerous opaque granules derived from the lateral masses described, which were thus shown to be a special larval organ, producing the substance of which the cyst was composed. The tail continued to wag violently, and was at length pinched off as it were by the hardening wall of the cyst. The cysts were snowy white by reflected light, but on rupturing them the included larvæ was found to be quite transparent. I had a few months previously seen a sheep which I had the best possible reason for knowing to be infected with flukes, wandering over the boggy spot from which the snail containing the cercaria came, and the presence of so highly developed an organ for the production of the substance of the cyst in a cercaria which encysted on any plants at hand, seemed to indicate that here was the cercaria of the liver-fluke, and it has since been proved that such was the case. Moreover, I had collected evidence from independent sources, which rendered it probable that the parasite was taken up by the sheep while grazing from the damp roots of grass, most likely in the encysted condition.

Of this cercaria I wrote at the time as follows :—"The structure and habits of this cercaria render it possible that it may prove to be the larva of *Fasciola hepatica*, but want of material has prevented my testing the question by giving the cyst to rabbits. I intend, however, to pursue this case further."

Accordingly, during the summer of 1881, I endeavoured to procure *L. truncatulus* in order to put my strong suspicion to the test of experiment. But I was unfortunately unable to find any, even in the localities where I had found it during the previous year. In my search I had on many occasions the skilled assistance of my friend and colleague Mr. W. Hatchett Jackson, but we never found any other trace of this species than the empty shells. The localities for the snail mentioned by Whiteave in his paper on the mollusca inhabiting the neighbourhood of Oxford, were searched, but without success. My friends at a distance were appealed to, but were unable to assist me. There can be little doubt that the freedom of sheep near Oxford from the liver-rot during last winter was directly connected with the real scarcity of this snail. This year, however, there were floods on the Isis in July, and *L. truncatulus* was brought down by the water in vast quantities, probably from marshy ground far up the river. So numerous were they that I repeatedly obtained as many as 500 specimens at a single sweep of a small hand-net. The low-lying meadows near the river were covered with the flood waters, and when these subsided the snails were left scattered broadcast over the fields. The snail is almost the smallest species of Limnæus ; the variety which I found so abundantly was only a quarter of an inch long when fully grown. Although

it is a water-snail it lives much out of water. My observations have convinced me that the individuals left by floods on the fields continue to live out of water so long as the ground is moist. Their numbers are recruited by others which crawl out of neighbouring ditches or streams. If a drought occurs they become dormant, but unless too long continued they revive with the first shower of rain.

On discovering these snails I immediately started infection experiments with them, and was at once successful. The adult fluke in the liver of the sheep or other mammalian host produces vast quantities of eggs. So prolific is it that I have estimated the number produced by each fluke to be at least several hundred thousand. The eggs pass with the bile into the intestines and are distributed over the fields with the manure. If the eggs fall on to wet ground, or are washed into a ditch, development continues, and after a time, the length of which depends upon the temperature, embryos are hatched out of the eggs. For the purpose of my infection experiments I obtained eggs from the livers of affected sheep, and kept them in water until the embryos were hatched, and then transferred them to vessels containing the snails to be experimented upon.

The embryo of the liver-fluke has the shape of an elongated cone with rounded apex; its average length is ·125 mm., or about 1/200 of an inch; its breadth at the anterior end about one-fifth of this. The broader end or base of the cone is always directed forwards, and in the centre of this a short retractile head-papilla. The whole of the surface, with the exception of the head-papilla, is covered with very long cilia, by means of which it swims, with head-papilla drawn in, swiftly and restlessly through the water. It is exceedingly active; sometimes it goes rapidly forwards, and then rotates on its longitudinal axis, just turning a little from side to side as if searching for something. At other times, by curving its body, it sweeps round in circles, or, curving itself still more strongly, spins round and round without moving from the spot. The cilia are carried by an outer layer of flattened ectoderm cells arranged in five or six transverse rings around the body, and are of the same length over the whole of the surface. The first ring is composed of four cells arranged around the papilla, and these are thicker than the other outer cells, often forming projections at the side of the embryo and resembling epaulets. Beneath these ciliated cells is the body-wall proper, and within this are a number of delicate vesicular cells—the germinal cells. Behind the head-papilla is a rudimentary digestive tract. The body-wall contains, near the anterior end, a double eye-spot, composed of crescentic masses of dark pigment, placed with their convex sides turned towards each other.

When the embryo, in moving through the water, comes in contact with any object, it pauses for a moment, and feels about as if trying to discover its nature, and if not satisfied darts off hastily again. But if the object be a *Limnæus truncatulus* it at once begins to bore. Under ordinary conditions the head-papilla of the embryo is short and blunt, but as soon as the animal begins to bore it becomes longer, conical, and pointed. The embryo spins round on its axis, the cilia working vigorously and pressing the embryo against the surface of the snail. This pressure is increased by the body of the embryo being alternately drawn up and then suddenly extended. As the papilla sinks further into the tissues of the snail it becomes longer and longer until it reaches five times its original length, and the tissues of the snail are forced apart as if by a wedge, leaving a gap through which the embryo squeezes its way into the snail.

The embryo will not bore into all snails alike; the only other species which I have found it bore into from without is *Limnæus peregeri*, and even here the specimens have always been such as were still very small. I have found embryos enter certain other snails, such as *Planorbis*, but only from

eggs which had been swallowed by the snail and had been hatched in the digestive tract. This difference seems to be due to an instinctive choice on the part of the embryo, rather than to a greater softness of the tissues in *Limnæus truncatulus*. The tissues of *Physa fontinalis*, for instance, appear to be equally soft, but I have found that if these two species are placed in a small bulk of water with a very large number of embryos, the *Limnæi* will be found on dissection to contain fifty or more embryos, whilst the *Physæ* will be entirely free from them.

But although the instinct of the embryo seemingly prompts it to enter the right snail, it does not teach it to discriminate between the different parts of the snail's body, for I have found as many as a dozen embryos within the substance of the foot of a single *Limnæus truncatulus*. Such a position of course is not favourable to further development of the embryos, which, thus gone astray, soon perish.

The natural place for the further development of the embryo appears to be the pulmonary chamber, but they may also be found in the body cavity. Once safely lodged in the suitable locality, the embryo undergoes a metamorphosis. It loses the external layer of ciliated cells and changes from the conical to an elliptical shape. The eye-spots usually become detached, but they, as well as the head-papilla persist, showing the identity of the young sporocyst—for so it must now be called—with the embryo of the liver-fluke. The active embryo has degenerated into a mere brood-sac, in which the next generation is produced. The sporocyst increases rapidly in size, the round, clear cells contained within it increase in number, partly perhaps owing to the division of the germinal cells of the embryo, but also owing to a multiplication and subsequent detachment of the cells lining the inside of the body-wall. As growth proceeds the contents of the sporocyst arrange themselves into round balls of cells, the germs of the second generation. These germs increase in size and assume first an oval and then an oblong shape, whilst a delicate cuticle is formed upon the surface. At one end a number of cells are arranged to form a spherical pharynx, which leads into a blind digestive sac. A little behind the pharynx the surface of the body is raised into a ridge, forming a ring surrounding the anterior end, whilst near the opposite end two short processes grow out. The germ has now become a redia, as the brood-sac or nurse-form provided with pharynx and intestine is called. The adult sporocyst is sac-shaped, and reaches the length of ·6 mm.: it usually contains one or two rediæ nearly ready to leave, together with two or three larger and several smaller germs. There is another method of increase during the sporocyst stage, namely, by the division of a sporocyst into two others by a constriction separating the original one into two smaller ones. This method of multiplication, however, does not appear to be frequent in this species.

When the redia is ready to come forth, it breaks through the wall of the sporocyst, and the wound caused by its forcible exit immediately closes up, and the remaining germs continue to develop. The injury done by the parasites to the snails causes a serious mortality amongst them, especially at the time the rediæ begin to leave the sporocysts, for the former are much more active than the almost inert sporocysts, and migrate from the pulmonary chamber into the other organs of the snail, and particularly into the liver, upon which they feed. The rediæ can be observed with the microscope, through the transparent shell, moving in the snail's liver. So great is the injury done, that in the laboratory, at any rate, very few snails survive three weeks from infection.

The redia increases in size, and may ultimately reach the length of 1·3 mm. or about one-twentieth of an inch. It resembles in every respect the rediæ I formerly described as found in the same snail at Wytham. Its contents of

spherical cells arranged themselves into round germs as in the sporocyst, though I was able in this case to observe the formation of a gastrula. The germs at first were spherical, they then become oval, and afterwards they elongate still more, whilst one end becomes narrower than the other. The narrower end is partially constricted from the remainder, and becoming long and slender, forms the tail of the cercaria, whilst the rest of the germ becomes the body. A sucker appears at the anterior end, and another of nearly equal size at the middle of the ventral surface of the flattened body, whilst within a digestive tract appears. This digestive tract is simply forked, and presents no trace of the lateral branches so characteristic of the adult.

The adult redia contains about a score of germs, but these are in very different stages of development. There are generally two or three nearly mature, the others in various stages down to small spheres of cells. Close to the raised ring surrounding the body of the cercaria there is a small opening as in all redix, by means of which the cercariæ are destined to be liberated one by one as they come to maturity.

But not all the rediæ produce cercariæ, for they sometimes produce other rediæ, and these daughter-rediæ then give rise to cercariæ. These latter, therefore, sometimes only appear as the fourth generation in the snail, and in one set of experiments I had reason to believe that no cercariæ appeared earlier. It will thus be seen that a single embryo may give rise to more than a thousand cercariæ.

In April of the present year Leuckart published a paper in the "Archiv für Naturgeschichte,"* where he described certain experiments on the development of the liver-fluke. He believed that *Limnæus pereger* was the intermediate host, and had suceeeded in infecting this species, though he had failed to rear the redia beyond the stage in which the contents were forming into spores. He had, however, obtained a number of *L. truncatulus* from a friend, and had found in them three different sorts of rediæ. One of these contained tailless distome larvæ, and notwithstanding that the characters of the redia were very different from those reared from the embryo of the liver-fluke, he believed the conjecture that this was really the larva of the liver-fluke to be entirely justified until further results were obtained. The second form he considered might possibly be related to the liver-fluke, but the probability was far less than in the case of the tailless form. In his description of the third form I at once recognised the cercaria I had already found and suggested as the larva of the liver-fluke. Leuckart, however, did not consider that there could be any connection, because he failed to detect any spines on the surface of the body such as we should expect, and on account of the lobed lateral organs, which he thought might be the vitellaria of the adult.

I wrote a report of my own results as described above, giving them, however, in greater detail, for the October number of the Journal of the Royal Agricultural Society. This report was sent to the printer on the 1st of September, and a fortnight later received a revision which was merely verbal.

On October 9th a paper by Leuckart appeared in the *Zoologischer Anzeiger*, a periodical which gives rapid publication to important papers. In this Leuckart extends his former results, and states that he too has reared the cercaria of the liver-fluke in *L. truncatulus*, and finds that it is the form with the lobed lateral organs which he had already seen, and supposed to have no connection with the liver-fluke. It will be seen, therefore, that the cercaria of the liver-fluke is really the form found by me in *Limnæus truncatulus* at Wytham, and described in the Royal Agricultural Society's Journal for 1881. It is interesting to see this result confirmed, not only by my own experiments, but also by Leuckart's independent investigations.

*Leuckart's paper is translated in the VETERINARY JOURNAL for last month.

Leuckart has not been able to find any trace in the cercaria of the spines which cover the surface of the adult fluke. He has, however, found in the cells of the cercaria small rod shaped bodies closely resembling bacteria in shape and size, and thinks they may eventually be arranged in bundles, and form the spines of the adult. But I have already stated that the anterior part of the body of the cercaria is covered with exceedingly fine spines, which can, however, only be seen in the most mature examples. The reason why Prof. Leuckart could not observe these spines was possibly because his examples were scarcely so mature. The rod-like bodies he mentions have certainly no connection with the spines of the adult. He states that they have never yet been found in other cercariæ. I may perhaps be allowed to say that they have been described by three different observers, first by Wagener, then by Filippi in the cercaria of *Amphistoma subclavatum*, and by myself in the cercaria of the liver-fluke (described in April, 1881).

For further details of the structure and natural history of the liver-fluke, as well as the discussion of preventive measures, I may refer to my reports in the Journal of the Royal Agricultural Society.

NATIONAL VETERINARY ASSOCIATION.

AT the British National Veterinary Congress of 1881, it was proposed, seconded, and carried unanimously that a Committee should be appointed to investigate and inquire into the advisability of establishing an Association for the purpose of holding future meetings—similar to the Congress—and otherwise promoting the advancement of veterinary science.

In accordance with this resolution a "Committee" was formed by each of the existing Veterinary Medical Societies, appointing two of its members to represent them, two representatives from the Army Veterinary Department, one from each of the teaching schools, and the President of the Royal College of Veterinary Surgeons.

A meeting of this Committee was held at 10, Red Lion Square, on Friday, October 27th, at two p.m., G. Fleming, Esq, in the chair.

Resolutions were carried to the effect that—

1. An Association should be formed under the name of the "National Veterinary Association."

2. The objects of the Association should be to promote and advance veterinary science, and maintain the honour and interests of the veterinary profession.

This, at present, to be limited to providing means for holding general meetings of the members of the Association in various parts of the country for discussing professional topics.

3. Its members should consist of holders of the diploma of the Royal College of Veterinary Surgeons, or the veterinary certificate of the Highland and Agricultural Society of Scotland, who conform to the rules of the Association, and pay their annual subscription.

4. The subscription was fixed at 10s. 6d.

5. The Association should be ruled and governed by a President, President-elect, Vice-Presidents, Treasurer, Council, and Secretary, together with a local "Provisional Committee."

6. The first General Meeting should be held in London, the day after the next Annual Meeting of the Royal College of Veterinary Surgeons in May next.

7. Subsequent meetings be held in different parts of the kingdom, from time to time, as the Council shall appoint, under the management of a local "Provisional Committee."

8. The "Provisional Committee" be formed from the members of the Association living in the neighbourhood of the place appointed for the next General Meeting.

9. That, in accordance with resolution 8, the "Provisional Committee," to provide means and regulate the business of the sittings for the First General Meeting in May next, be elected from members of the Central and Southern Counties Veterinary Societies, and others living in or near London.

The "Provisional Committee" entrusted with the arrangement of the General Meeting next May has been formed, and will shortly issue a circular announcing the formation of the Association, etc., etc.

We confidently believe it is the wish of the profession at large that such an Association should be established; and that they are quite cognisant of the scientific, social, and other advantages to be derived from it. However, to ensure success in such an undertaking in the veterinary profession it is essential that all its members should assist. Therefore the co-operation of all is earnestly requested.

By the Committee of Enquiry appointed by the British National Veterinary Congress,

Signed { G. A. BANHAM, J. H. STEEL, } *Hon. Secs. B.N.V.C.*

Reviews.

THE PRINCIPLES AND PRACTICE OF BOVINE MEDICINE AND SURGERY. By J. Woodroffe Hill, F.R.C.V.S. (London: Baillière, Tindall, and Cox. 1882.)

A hearty welcome must be accorded Mr. Hill's book on Bovine Medicine and Surgery, not only on account of its utility, but on the excellent manner in which it is brought out. In itself the work is greatly in advance of anything that has yet appeared in this particular section of veterinary medicine and surgery, and so far as Mr. Hill's individual experience and that of other writers are concerned, it adequately represents the present position of the subject as a whole. The plates are good—many of them very good—and the woodcuts sufficiently illustrative to convey what words might do insufficiently. The arrangement of the matter will commend itself to busy practitioners, to whom it furnishes valuable information in a ready and convenient form. There are few active members of the profession who will not appreciate the author's desire to assist them in their daily avocation, by bringing together into one volume materials collected from many different sources, and so sparing their time and patience; while his own contribution to the stock of knowledge will be gratefully accepted, and, we feel sure, highly valued. No expense or pains appear to have been spared in the attempt to make the book a success, and more than credit is due to Mr. Hill for its production, in the midst of the turmoil and cares which attend the every-day routine of a veterinary surgeon's career.

AN ESSAY ON THE BREEDING AND MANAGEMENT OF CART HORSES. SECOND EDITION. By R. S. Reynolds, M.R.C.V.S. (London: Baillière, Tindall, and Cox. 1882.)

Little more than a year ago we noticed this booklet, and now we are gratified to find that the demand for it has necessitated a second edition. The subject is interesting and important, and there can be no doubt that the able manner in which it has been treated by Mr. Reynolds will obtain for it all that consideration which it so fully demands.

We note that Mr. Reynolds is in favour of the use of the bearing-rein for draught horses, and he gives his reasons. Those who oppose this rein would probably dispute these reasons with more or less success; but while unwilling to be a partisan of either side, we certainly cannot agree with the statement that "by disuse of the bearing-rein, cart-horses contract a tendency to become careless and slovenly in their gait, and to carry their heads to the near side from absence of equal bearing on both sides the mouth; and, in my opinion, it is as reasonable to expect a hackney to carry his rider safely and well, as for a cart-horse, unassisted by a bearing-rein, to be clever, active, and safe at his work." So far as our own experience is concerned, it is only in countries, as England, where bearing-reins are worn that we see horses careless and slovenly in their gait; while in those in which it is not in use—as in Scotland—horses are clever, active, and safe at their work. The bearing-rein would spoil the quick, easy-stepping, and powerful Clydesdale horse, as we see him in such cities as Glasgow; and the Scottish carter, not without justification, looks upon it as not only useless, but an instrument of torture, and a source of loss of power. The comparison between a hackney and a cart-horse is scarcely appropriate in this discussion, inasmuch as the former has to carry the rider's weight on its back, or rather forehand, while the latter has the weight supported on wheels. But the employment of the bearing-rein has never been discussed in relation to animal mechanics, and until this is done it is probable that it will have its advocates.

THE SIMPLE AILMENTS OF HORSES: THEIR NATURE AND TREATMENT. By W. F. (London: Cassell, Petter, Galpin and Co. 1882.)

THE HORSE-OWNERS' SAFEGUARD. By G. S. Heatley, Veterinary Surgeon. (Edinburgh and London: W. Blackwood and Sons. 1882.)

It is scarcely within the province of a professsional journal to make comments on books which are obviously not written for professional men, and are, therefore, of no possible interest to them. The above two works are published for the information of amateurs, and so far they may answer their purpose, though we have already freely expressed our opinion with regard to the risks and futility of amateur animal doctoring. There is much in both books which few amateurs

will understand, a good deal of advice given which they had better not act upon, hints which are more likely to mislead than to lead, and omissions which are serious if the treatises are to be of any use. For instance, in the first work Glanders and Farcy are not mentioned, and surely the amateur, if he is to know anything at all of horse maladies, should have an inkling of these two forms of one very formidable disease.

In the second work, Mr. Heatley (whose name does not appear in the Register of Veterinary Surgeons) states in reference to this malady: "We may take matter from a glandered horse, and give it in a ball to a healthy one, without producing the disease—the digestive organs seem not to accept it." Mr. Heatley possibly does not know that it has been experimentally demonstrated, over and over again, that the digestive organs will "accept it," and that in all probability this acceptance is a very frequent cause of infection. If the horse-amateur world must have guide-books to aid and instruct them in diagnosing and treating diseases, as well as in performing operations which require much anatomical knowledge and surgical skill, then these works should certainly be supervised by some one who is in a position to prevent the dissemination of error, pass what is useful, and refuse what is worse than useless.

STABLE MANAGEMENT AND THE PREVENTION OF DISEASE AMONG HORSES IN INDIA. By J. J. Meyrick, F.R.C.V.S., Army Veterinary Inspector. (London: Baillière, Tindall, and Cox. 1882.)

This little book is the substance of some lectures delivered recently at the Army Veterinary School at Aldershot, to veterinary surgeons and officers of mounted corps stationed there. Mr. Meyrick had every right, from long experience and close, enlightened observation, to speak with authority on the stable management and diseases of horses in India, and his lectures are consequently full of sound and valuable information, which will be most welcome not only to veterinary surgeons and cavalry and artillery officers about to proceed there for the first time, but also to those who may have spent years in the country. The lectures are sure to be largely read, and especially as they are well printed in a handy and cheap form.

Army Veterinary Department.

THE *Gazette* of November 17th publishes the names of a crowd of officers who are decorated and promoted for service during the late campaign in Egypt, and among them appears the name, for the first time, of an officer of the Veterinary Department—J. J. Meyrick, Inspecting Veterinary Surgeon, who held the local rank of Principal Veterinary Surgeon. He received the Companionship of the Bath (C.B.), and the third Class of the Osmanieh—an Egyptian or Turkish distinction.

Veterinary Surgeon F. F. Walker, First Life Guards, with other selected officers and men, attended at Windsor Castle, to receive the Egyptian War Medal from the Queen in person.

The *Standard* has the following :—" So perfect have been all the arrangements of the Veterinary Staff in Egypt, that the Secretary of State for War, we understand, is to be recommended to confer some special mark of recognition on the officers of the Army Veterinary Department, who have hitherto passed unnoticed at the close of a campaign. The veterinary surgeons attached to the expedition are said to have been unremitting in their exertions, and have saved the country vast sums of money.

On the recommendation of the Director-General of Military Education, a new appointment—that of Veterinary Lecturer—has been added to the staff of the Department of Artillery Studies at Woolwich. First-Class Veterinary Surgeon J. C. Dwyer has been selected for the post, the creation of which has been long thought desirable.

Parliamentary Intelligence.

House of Commons, November 16th.

THE ARMY VETERINARY DEPARTMENT.

COL. O'BEIRNE asked the Secretary of State for War whether he could now state, in conformity with a promise made on the 17th of March last, what decision had been arrived at with regard to the readjustment of relative rank and retiring pay of the officers of the Army Veterinary Department.

Mr. CHILDERS replied that the question of the readjustment of the relative rank and retiring pay of officers of the Army Veterinary Department had been before him, as well as other questions affecting the estimates of the year, but he did not think it prudent to anticipate what would be shown in the estimates on the subject.

Mr. CALLAN asked if there was any reason for excluding officers of the Veterinary Department from receiving the decorations to be given at the Royal review to every other branch of the service serving in the late Egyptian campaign.

Mr. CHILDERS.—In reply to the hon. member, I have to say that I entirely fail to understand his question. I am not aware that Her Majesty contemplates giving any decoration at the approaching review, nor am I aware of any intention to exclude the Veterinary Department from any distinctions of medals or decorations which Her Majesty may be pleased to make.

Obituary.

THE profession has sustained a heavy loss in the death of Mr. W. A. CARTWRIGHT, of Whitchurch, Salop, a most zealous and intelligent practitioner, who, having graduated in 1840, commenced a busy and laborious career as a country veterinary surgeon. Taking the greatest interest in everything connected with his calling, Mr. Cartwright more especially turned his attention to that greatly neglected branch of veterinary surgery—obstetrics—and for a number of years his contributions to the literature of the subject were numerous and valuable, bearing, as they did, the impress of a skilful and observant practitioner. It was greatly due to his solicitation that we commenced our work on " Veterinary Obstetrics," in the progress of which he took a deep interest, and for the more practical section of which

he generously volunteered to lend his manuscript notes of cases and references. In everything pertaining to professional progress he was in advance, and he was one of the foundation Fellows of the Royal College of Veterinary Surgeons. In every sense of the word he was a worthy man.

J. B. GREGORY, M.R.C.V.S., and Inspector for the Privy Council at Portsmouth, suddenly expired on October 14th, aged sixty-eight years. He graduated in 1835, and carried on an extensive practice in Southsea and Portsmouth, where he was justly esteemed.

The death is announced of W. F. COOPER, M.R.C.V.S., of Great Berkhampstead, Herts, who graduated in 1865.

JOHN GILLIGAN, M.R.C.V.S., died at Glasgow, on October 15th. He became a member of the Royal College in 1873.

Proceedings of Veterinary Medical Societies, &c.

ROYAL COLLEGE OF VETERINARY SURGEONS.

QUARTERLY MEETING OF COUNCIL, HELD OCTOBER 26TH, 1882.

GEORGE FLEMING, ESQ., President, in the Chair.

Members present.—Messrs. J. W. Axe, H. T. Batt, F. Blakeway, G. T. Brown, William Broughton, B. Cartledge, H. J. Cartwright, T. R. Cox, E. C. Dray, Sir F. Fitzwygram, Messrs. T. Greaves, M. J. Harpley, H. R. Perrins, W. Pritchard, R. Reynolds, W. Robertson, J. B. Simonds, H. L. Simpson, A. H. Santy, T. H. Simcocks, P. Taylor, T. Walley, W. Williams, W. Whittle, W. Woods, T. W. Wragg, and the Secretary.

The SECRETARY read the notice convening the meeting.

On the motion of Mr. DRAY, seconded by Mr. TAYLOR, the minutes of the last meeting were taken as read.

The SECRETARY read a telegram from Mr. Anderton, regretting his inability to attend the meeting.

The SECRETARY then stated that presentations to the library had been made by George Fleming, Esq., President, and Professor Williams; also pamphlets by Professors Thiernesse, Dégive, Semmer, Pütz, and Ercolani.

Mr. DRAY moved, and Mr. BLAKEWAY seconded, a vote of thanks to those gentlemen for their contributions, which was carried unanimously.

The SECRETARY said he had received letters from the Scottish Metropolitan Veterinary Society, memorialising the President and the Council, to the effect that a member of the veterinary profession should be appointed at the Materia Medica Table in lieu of the Medical Examiner. Also a letter from the Midland Counties Veterinary Association, praying that veterinary surgeons only be appointed as Examiners for the Diploma. Also from the Irish Central Medical Society, asking that only members of the veterinary profession be appointed Examiners.

The SECRETARY read a letter from Mr. T. D. Hulme, stating that he had lost his diploma. The usual certificate was ordered to be sent.

The SECRETARY then read a letter from the Irish Central Veterinary Medical Society, stating that a member of the profession had been using a title to which he had no right.

After a short discussion it was agreed that a copy of a letter received from the Secretary of State be sent to such member.

July Examinations.

The Report from the Court of Examiners was taken as read.

Registration Committee.

The SECRETARY read the Report of the meeting of the Registration Committee held on the 12th October.

The CHAIRMAN said at the first meeting of the Committee it was decided that every member of the profession should have a list of the names proposed for registration sent by post, in order that the members might judge as to the fitness of the men. At the last meeting the question was discussed, and some members were of opinion that the sending out of such a list entails great expense, and it was suggested that advertising in the professional journals would be sufficient. It was for the Council to decide which of the two courses was to be adopted.

Mr. SIMPSON said at the last meeting of the Registration Committee he had proposed that lists should be sent to every member. Since then he had seen many members of the profession, and most of them were in the dark as to the working of the Act, and thought it a most desirable thing to do. He begged to move that circulars be sent as originally proposed by the Committee.

Mr. SANTY seconded the motion.

The CHAIRMAN thought that whatever information they wished to give to the members of the profession should be entirely of a private nature.

Professor BROWN said it was a question for the Council to consider whether it was worth while running the chance of litigation. A Mr. Goodman had written a letter to the Privy Council, saying it was contemplated to publish the names of intended applicants, and that they were of opinion that such publication would be injurious to their interests; and therefore called upon the Privy Council to interfere. There was nothing in the Act giving the Privy Council any right to protest against any act of the Council in that direction: it was simply a matter for the Council to decide.

Mr. GREAVES thought it was part and parcel of their duty to consider whether the applicants were men of sufficiently good character to belong to the profession.

Mr. TAYLOR said that they had no right to publish the names *pro bono publico*.

Professor WALLEY said that the circulars could be marked "private" if necessary.

Professor BROWN then referred to a clause in the Act.

Mr. TAYLOR said that if the Council damaged the character of applicants, they could bring an action against it. The applicants had to a certain extent given proof of their respectability by making declarations before magistrates.

The CHAIRMAN said there was power to require from those who sought registration some evidence as to their respectability. At their Annual Dinner, Mr. Mundella, M.P., had spoken about the desirability of keeping out men of bad character, and the Council had that feeling also. He thought that the Royal College before it registered any one, should protect itself from admitting on its Register any men who were utterly unfit. He thought that simply a certificate of respectability was not sufficient to protect the public. If a man registered himself falsely he could, under the Act, be severely punished; he was liable to a period of imprisonment for twelve months, and anybody who assisted him was liable to the same punishment. He did not see any harm in issuing a circular containing the names of applicants, which was entirely a private matter for the profession.

Mr. SIMPSON said he would withdraw his proposition with regard to the insertion in the journals, and would simply propose that a circular marked "private" be sent to members of the profession, and those protesting must send in reason of protest within one month of the issue of such circular.

The motion as amended was put and carried.

The Matriculation Scheme.

The SECRETARY read the Report of the Examination Committee, held on the 12th October.

Professor SIMONDS said it was upon his motion at the last meeting of the Council that the Report of the Matriculation Committee was handed back for reconsideration. He was inclined to think that the course adopted with regard to the circular was altogether a mistake. He held that the Council had really no right to interfere with the education of the students prior to their entering the colleges. They were, strictly speaking, an examining body, and not an educational body. He believed if they usurped the power which was now possessed by the schools they would find themselves in a critical position. If the Matriculation Report were adopted, if a young man presented himself for examination and he was rejected, he being about to enter one of the schools, that school, for the time being, at any rate, would be deprived of a student. If they looked to the schools, they would find that one of them, at any rate, had a charter of incorporation, and in that charter there was given power to sue the sued; so that there was no question as to their right to call upon the Council to state why it interfered with the entrance of students. The Council was looking forward to obtaining another Charter which would give them power to institute Matriculation or Educational Examinations; and that being so, it would be decidedly the safest plan for them not to adopt the Report of the Matriculation Committee. He begged to move that the Report be on the table till the Council was in a position legally to institute Matriculation Examinations, prior to students entering upon their studies at the several schools.

The CHAIRMAN thought Professor Simonds had rather mistaken the view of the Council with regard to the examinations. The Council did not attempt to prevent students from entering the schools. It simply asked for evidence that the students who came up for their first examination had received a certain amount and kind of education. The new scheme would not prevent students entering schools. With regard to the legality of the action, that had been decided, inasmuch as the question had been submitted to the Attorney-General, and he had stated that the Royal College of Veterinary Surgeons had power to exact that information from the students.

Professor SIMONDS said that whatever legal opinion might be expressed, the safest course was to adopt the common-sense view of the matter, which was that the Council was simply an examining body. It was quite true that the student could be called upon to produce a certain certificate setting forth that he had passed a particular matriculation examination; but supposing they found that a student had not passed that examination according to their scheme, they would then refuse to give him an examination, but directly they refused the student could commence an action against them.

Professor WALLEY said if they were in an illegal position, let them by all means put themselves right. He was quite sure that all the members of the Council were anxious that the students should be properly educated before they went into the colleges. The question was, Should the Council take the matter up, or ought the colleges to do so? He did not see that there should be any difficulty in the colleges agreeing to some such scheme, and if there was any question of legality about it, it would be better to adopt that course than run any risk.

Mr. ROBERTSON said he certainly opposed every scheme which did not put into the hands of the Council the whole management of the Matriculation Examination.

The CHAIRMAN thought that the Council had better adhere to the opinion of the Attorney-General. He believed that the College had power to ascertain

whether a student had been properly educated. If the Council had no such power, it might as well not examine at all. He thought it would not do to leave the power in the hands of the schools. A student who had been rejected at one school could go to another of a lower standard, and that he considered unfair. If the Royal College ascertained that the candidate was sufficiently educated for his first examination, it would be a great responsibility taken off the schools, and would do great public service.

Professor WILLIAMS said he supported what was recommended by the Committee. He saw no provision for the examination in Scotland, and if the Committee could provide an examination for Scotland he should certainly recommend that the proposals of the Committee be adopted. In Scotland the College of Preceptors was totally unknown. At the present time, he thought, more liberal provision must be made for examination.

Professor WALLEY said it was useless to discuss the matter until they knew whether they were acting legally. He begged to propose, "That legal opinion be obtained on the matter."

The SECRETARY then read one of the opinions obtained, namely, that of the Attorney-General.

The CHAIRMAN said he had ascertained that the College of Preceptors had examiners in Scotland, and could institute a Board at any time.

Professor SIMONDS said it was desirous that all students should be examined by the same body, whether they entered the College at London, Edinburgh, or Glasgow. He therefore asked that the matter might be in abeyance.

Professor WALLEY said that there was one man at least who would not agree to the question being carried, and that was Professor McCall.

The CHAIRMAN said it was for the Council to decide whether the education examination scheme should be enforced or not.

Professor SIMONDS proposed, and Professor WILLIAMS seconded, "That the Report of the Matriculation Examination lie on the table."

The motion was carried.

Finance Committee.

The SECRETARY read the report of the last meeting.

Mr. DRAY called attention to the applications which had been received, accompanied by the requisite fees.

Mr. SIMPSON asked if the amount collected were deposited at the bank.

Mr. DRAY said it was.

Mr. SIMPSON asked if there were any liabilities in connection with the new Act.

The SECRETARY replied that there were none. All the expenses since the Act was obtained had been paid out of the general account of the College, so that the amount stated remained in the hands of the Council for the Registration Account. Upwards of 2,000 persons had applied for forms.

Mr. CARTLEDGE then moved the adoption of the Report.

Mr. TAYLOR seconded the motion.

The motion was put and carried unanimously.

On the motion of Mr. TAYLOR, seconded by Professor PRITCHARD, it was ordered that cheques be drawn and paid.

The Supplemental Charter.

The CHAIRMAN said that at the last meeting it was decided that a Supplemental Charter should be sought for. A rough draft had been prepared, and it was for the Council to take it into consideration. The barrister who prepared the draft made an omission in page 3, not quite

understanding what was required. It arose in this way: it was suggested, in drafting the Charter, that members of the profession, either foreign or colonial, might desire to become members of the College—men who might have a high position in their own country. Such persons at present would have to come to this country to study for a period of six months before they could present themselves for examination. He knew of a very distinguished teacher who had come to England, and was anxious to become a member of the College, but would not submit to studying with the students, in order that he might qualify himself for examination, he himself being a teacher. It was therefore proposed in the draft to give the Council power to examine those gentlemen without their having to undergo a period of study at one of the schools. The Charter of 1844 stipulated that the student who presented himself for examination must have studied at one of the Colleges. The other points in the Charter were those which had been frequently discussed ever since he had been on the Council. He thought it was time to ascertain what their powers were, and fix them if possible. They were now not only a licensing body, but a protecting body. He thought, therefore, that the stipulation in the first Charter, that the examination fees should be ten guineas, might be altered, and that the College should have power either to increase the fees or allow them to remain as they were. There were a great number of examinations, entailing large expense, which was hardly met by the fees. He thought the College should have the power, even if it did not exercise it, to raise the examination fees in proportion to the expenses of the examinations, or to such an amount as might be deemed necessary, in order to cover the expenses of the examinations and to protect the practitioner while he was practising. It was his opinion that the Supplemental Charter should be obtained as early as possible.

Mr. TAYLOR wished to know on what ground the fees were to be raised. He had heard that they were to be increased to forty guineas, or even to a higher amount.

The CHAIRMAN said that thirty guineas was proposed as the maximum sum. The maximum of the present Charter was ten guineas, with one guinea registration.

Professor WALLEY said that Clause 13 in the Act allowed them to admit colonial veterinary surgeons or teachers as members; they became to all intents and purposes members of the College.

The CHAIRMAN said that such was not the case. It was only with regard to practice and the claiming of fees in a court of law.

Professor WALLEY said he should strongly resist anybody interfering with the course he might take with regard to his lectures to the students. There was not a single fact upon which he did not touch during the course of a student's study. If a teacher failed to give proper instructions to a student it was his own look-out, but if it was done properly he did not see what right the Council had to interfere with it. The minimum age for condidates to be examined for the diploma was settled some time ago, namely, twenty years.

Mr. TAYLOR thought they had acted illegally in demanding what they had done already, viz., three guineas for each rejection.

Professor SIMONDS said he should like to know the names of the gentlemen who constituted the Parliamentary Committee, when they attended, and when they gave a draft for the Charter or had an interview with the lawyer to give him instructions for preparing the Charter. He must protest against the Charter being laid upon the table, as he had never received any intimation that the Parliamentary Committee was required to meet or that the matter of the Supplemental Charter would be considered. He did not believe any other members of the Parliamentary Committee had received notice of it.

The CHAIRMAN said it had been decided that a Supplemental Charter should be drafted, and that if Professor Simonds had not been absent from the meetings for so long a period, he would have known what business had been done by the Council.

The SECRETARY said that the last meeting of the Parliamentary Committee was on November 18th. He then read the minutes of that meeting.

Professor WALLEY moved "That the proposed Supplemental Charter stand over and be referred back to be properly considered by the Parliamentary Committee."

The motion was carried.

Notice of Motion by Mr. Simcocks with regard to Bye-Law 22.

Mr. SIMCOCKS agreed to let this matter stand over till the next meeting of the Council.

Board of Examiners.

Professor ROBERTSON asked if there were any law against professors in virtue of their office attending the meetings of the Board of Examiners.

Mr. GREAVES said that the Principal of the School ought to be in the room. Years ago intimation used to be given to the professors that the examinations were to be held, but that had been dropped.

Professor SIMONDS said it had been decided by the then existing Council that the Professors were at full liberty to be present at examinations.

Professor PRITCHARD proposed, "That intimation be sent to the professors informing them when the examinations were to take place."

Mr. GREAVES wished to know whether they were limited to the names of those who were nominated at the last Council meeting.

The CHAIRMAN replied that such was necessarily the case. It was decided by the Council that nominations were made at last meeting.

Mr. GREAVES said that he had been at three or four meetings, one in Yorkshire, one in Lancashire, and one in Liverpool, and they were unanimous in wishing that the Council should elect the examiners out of the profession only.

The CHAIRMAN thought it desirable to decide the question whether they were to abide by the nomination, or whether it was open to propose other names than those on the list.

Several having expressed their opinions, it was decided that other persons could be nominated.

The ballot was then taken, and the following gentlemen were appointed examiners :—

CLASS A.—Chemistry and Toxicology : for England, Professor Voelcker ; for Scotland, Professor Vaughan.

Botany : England, Mr. W. B. Walters ; Scotland, Mr. W. B. Walters.

Materia Medica and Pharmacy : England, Mr. F. Dun ; Scotland, Mr. F. Dun.

CLASS B —Physiology and Histology : England, Dr. B. Sanderson ; Scotland, Mr. W. A. Taylor.

Anatomy of the Horse : England, Professor Pritchard ; Scotland, Mr. Geo. Fleming.

Anatomy of other animals than the Horse : England, Mr. Duguid ; Scotland, Professor Vaughan.

CLASS C.—For England and Scotland.

The Horse : Messrs. Pritchard and Cox.

Cattle : Messrs. Duguid and Gresswell.

Morbid Anatomy : Mr. Geo. Fleming and Mr. G. A. Banham.

The SECRETARY read the obituary list.

Professor WALLEY consented that his notice of motion should stand over until the next quarterly meeting.

The proceedings terminated with a vote of thanks to the President.

SOUTHERN COUNTIES VETERINARY MEDICAL ASSOCIATION.

THE ordinary quarterly meeting of this Association was held at Red Lion Square, London, on October 30th. Mr. Fleming, President, was in the chair, and the following members were present :—Messrs. Barford, Southampton ; Hancock, Poplar ; Morgan, Ash ; Shaw, Hackney ; Simpson, Windsor ; Wragg, London ; Batt, London ; Hogben, Dover ; Brown ; Shaw, London ; Stock, Lewes ; Rock, Chislehurst ; Hogben, Folkestone ; Cawthron, Hadlow ; Broad, London ; Rowe, London ; Sampson, Mitcham ; Charles, London ; Axe, R.V.C. ; Penberthy, R.V.C. ; Walters, Aldershot ; Barton, Tunbridge Wells ; Lane, Eastbourne ; Edgar, Dartford ; Martin, Secretary ; Farrance, Eastbourne ; Gibbs, Bromley.

The SECRETARY read the notice convening the meeting. The minutes of the last meeting were read and confirmed. Letters of apology were read from Mr. Jarvis, Mr. Cooper, and Mr. Holman.

Mr. MORGAN exhibited a specimen of an ossified auricle.

Mr. EDGAR exhibited a specimen of fracture of the os coronæ. He also exhibited a tooth incisor, which, he said, obtained the maximum amount of power with the minimum of steel. It could be adapted to any position by simply twisting it, and was the most humane instrument he had ever seen.

The PRESIDENT proposed Mr. Wragg, of London, as a member of the Association.

The SECRETARY seconded the proposal.

Mr. BARFORD proposed Mr. Hancock as a member.

The PRESIDENT seconded the proposal.

The SECRETARY, referring to the specimen of the ossified auricle, said it seemed rather astounding that a horse could work with its heart in such a condition. Although it was said to be an ossific deposit, it did not seem to have taken on the perfect character of bone. It was very light, and unless it had been in some spirit he should hardly call it an ossific deposit, though it might be an abnormal deposit.

Mr. MORGAN said it had been in lime some time.

The PRESIDENT said of course that would make it lighter.

The SECRETARY said veterinary surgeons laboured under some disadvantage compared with human surgeons. In the case of the latter, the patient could explain his feelings, but a horse could not. Perhaps Mr. Morgan would describe the symptoms more fully.

Mr. MORGAN said the horse was bought as a six-year-old, and worked pretty fairly for a month or two, but always made a noise in drawing, and gradually got very short in his breath. His pulse, of course, was almost imperceptible at times ; but the owner—a carrier and farmer—worked him as long as he could. At last he (Mr. Morgan) looked at him, and said that it was Heart Disease. The horse was then turned out and got a little better ; but afterwards was found dead.

The PRESIDENT asked which auricle it was.

Mr. MORGAN said he did not notice, because the specimen was sent to him.

The PRESIDENT said it could not be true bone. He supposed it was simply an ossific deposit in the muscular tissue of the auricle.

Professor AXE said there was not a great amount of force in the auricle.

The PRESIDENT said the specimen was interesting from the fact that the animal had lived so long with such a change in a very important organ; but the auricles were not absolutely essential to the due function of the heart. They were more receptacles of blood than anything else, and though they had a certain amount of contractile power with which to empty themselves into the ventricle, yet the latter were the main propelling portions of the heart. A specimen was sent to the Royal College of Veterinary Surgeons some time ago, which was the transverse section of a horse's heart, of which the auriculo-ventricular septum had become ossified, but the section was so unsatisfactory that nothing could be made of it. It was a pity they could not get these specimens in a fresh state with the muscular tissues attached, so that they could see the change that had taken place. In the present case he thought that the alteration was due more or less to rheumatism; but very little indeed was known of the pathology of the horse's heart, and it was only when the animal died that they could discover the changes that had taken place. The difficulties of diagnosing heart affections in animals were very great; and, therefore, the veterinary profession was at a disadvantage compared with medical men when dealing with maladies of that organ.

The PRESIDENT said that Mr. Simcocks, of Drogheda, had sent a letter respecting a very important motion which he intended to bring before the council of the Royal College of Veterinary Surgeons. The motion was to the effect that no medical man should be an examiner for the diploma of the Royal College of Veterinary Surgeons except the examiner in botany. The motion was brought forward at the last council meeting, but Mr. Simcox had written to Mr. Martin, asking him to lay the subject before the Association and to get the opinion of the Association upon it. The election of examiners for the next five years had taken place; but Mr. Simcox, desirous of ascertaining the feelings of the profession through the Associations, had applied to them all. He had had responses from every one except the Southern Association. It was, therefore, for the Association to decide whether the subject should be discussed at the present meeting or be postponed.

It was resolved to postpone the consideration of the subject until another meeting.

The PRESIDENT read a paper on Actinomykosis,* in which he described this disease, apologising for the incompleteness of the paper, but supplementing it verbally as follows:—

The diagnosis, as you will see from the specimens laid before you, is not difficult when the disease is situated in any parts which are accessible to the eye. The nodules are peculiar, and I think no one could mistake them for the deposits of tubercle. The way in which they are embedded, the manner in which they grow, and especially their situation, all should afford us ample means of diagnosing the malady. As to the malady, there can be no doubt that it is due to the fungus exhibited, and the existence of which is abundantly demonstrated; so many observers in Germany and Italy have been working at the disease, that there can be no doubt as to its pathology. But then the question comes, How do these microphytes get into the tissues? Considering that the disease is always found in the neighbourhood of the digestive tract, there is reason to think that the spores may obtain entrance by the mucous membrane; that they grow, and gradually invade the tissues. I think that is the only reasonable explanation that we can give for their entrance into the body. For some time it was thought that the disease was not inoculable. Dr. Bollinger attempted it, as also did others; but they failed. Johne and Ponfick, however, have been successful, and the animals

* This paper will appear in next month's Journal.

showed the disease in its most active form ; therefore there is every reason to think that this is not only a specific disease due to a particular microphyte, but also that it is a disease which may be transmissible not only from animals to animals, but to men, or from men to animals. The disease has not been sufficiently long under observation to decide as to that, but among the sixteen cases recorded in German medical literature, Dr. Ponfick has described one of a man who was admitted to the hospital suffering from a diseased jaw. He had had a molar tooth extracted, and not very long afterwards very intense pain was set up in the jaw, and a tumour began to grow in the cavity left by the tooth. This tumour enlarged rapidly, suppuration took place, fistulæ were established in the bone, and ultimately the man died from the suppurative process extending to the vertebræ. In the pus Dr. Ponfick discovered the microphytes in immense quantities, and it was subsequently ascertained that the man had been attending a cow affected with the malady. This is the only case on record which might lead us to suspect that the disease may be transmitted from animals to man. With regard to animals affected with the disease, the ox appears to be the chief for harbouring these parasites ; but the pig has also been found to suffer very much from it, especially in the shape of tumours in the region of the pharynx and the parotid gland. And perhaps it may be discovered that the condition of pigs known as Scrofula has some relationship to this fungus. One case has been found in the horse, and another has been recently reported in the jaw of a dog. Then, with regard to the treatment, my object to-day is not so much to discuss this as to bring the disease itself to your notice. I have been extremely interested in the subject of Tuberculosis, and in studying that disease this might be said to be one of its offshoots. The papers published on Tuberculosis, and especially that supposed form which affects the mouth, led me to think that very often there were mistakes made ; and I was delighted to discover that a mistake had been made with regard to this same malady, because there is no doubt that in a great many cases it may be, and is, cured. Tuberculosis is, no doubt, a general affection, whereas this is local ; therefore, when the locality is within reach, and when the disease has not progressed too far, there appears very good reason to believe that it may be cured, if taken in time. With regard to the pharyngeal form of the disease, I may mention that these tumours may be removed by operation, as we all know. With regard to their frequency, they appear to be extremely common in Germany, because I find that Herr Meyer—a veterinary surgeon in that country—in the course of twelve years' practice, had operated on no fewer than 300 cases of these tumours. His method of operation was simple : contriving to get the mouth held open, he used no instrument, but with his finger-nail scraped through as much of the tumour as he could at its base, and then twisted it or had it torn off. A large number of his cases did well. But other cases have been more difficult, especially those in the larynx ; but Dr. Siedamgrotzky removed a tumour from the larynx, which was not accessible to the hand through the pharynx, and the animal survived. It has been suggested that in man the operation might be successful in a number of cases. Of course we cannot be supposed to be successful when it comes to resection of an animal's jaw. Knowing the great importance of mastication, and the expense which would attend such a serious operation, it would never pay to remove any important portion of the jaw of an animal. It has been suggested that where we have the fungus disseminated through the tissues, medicaments that would destroy it might be employed ; but that is a matter for future study. In the meantime, I have brought the subject before you, and venture to show you some very interesting macroscopical and microscopical specimens. I only regret that the tongue first sent us was too much cut about to be exhibited. The tongue now shown is affected with the

disease in a very early stage, the extremity being chiefly involved; nevertheless, there is a great number of nodules in it. In the two other specimens you will find the disease in a very extraordinary situation, and I cannot discover among the writers I have been hunting up any mention of it affecting the nasal chambers. You will find in one specimen an immense aggregation of these nodules—some like warts. As you are aware, Mr. James and others have been successful in curing a number of cases where the disease has been confined to the tongue, by digging or scraping out the growths, and treating them with strong caustics. These animals appear to have done well, which shows that there is no constitutional affection, but that the disease is entirely local. I think it is an interesting malady, and I fancy in Lincolnshire, where wens on the neck and diseased tongues are very common, we shall get plenty of specimens which will still further illustrate and elucidate the disease. The fungus is like a mulberry, when in mass. It appears to grow in clusters, but when not pressed it is entirely globular, appearing like a ball surrounded with small projections. We do not know much of the morphology of the fungus, or of its history; but from the disease appearing so frequently in the ox, there is reason to believe the fungus is obtained from the food the animal eats. It must obtain access to the pharynx, penetrate the mucous membrane, and there grow.

Professor AXE made the following remarks:—I have to thank you, sir, and the Southern Counties Veterinary Medical Association, for being permitted to be present here to-day. More especially my thanks are due to you, sir, for having brought before us such a mass of very important information. There are few subjects, perhaps, in pathology which are deserving of more serious attention than those of zymotic diseases, and our Chairman has contributed to the pathology of these affections a very considerable amount of interesting matter in one shape or another, as is testified by the pages of the Journal over which he presides. I have a special interest in this particular affection, insomuch as it is one to which I have directed my attention during the past ten years. It has, on numerous occasions, been brought to my notice by veterinary practitioners in various parts of the country, and I have devoted a very large measure of time and trouble in endeavouring to arrive at a conclusion as to its precise pathological nature, and more particularly as to its etiology. In 1877 I commenced a series of articles, two of which appeared in the *Veterinarian*, headed: "Some Remarks Tending to Elucidate the Pathology of a Disease occurring in the Tongues of Oxen." It is to this special disease that those remarks referred. Notwithstanding that I was able to collect a considerable amount of clinical information, and, at the same time, able to work out the pathological changes which belong to the disease, I found it necessary to dwell, before attempting to explain its nature, upon the fact that there appeared to be wanting this particular link to which the President of your Association has referred, namely, the active agent in the production of the disease. The negative pathological testimony was perfectly obvious to me. That it was not as it has been termed—cancer—was clear: that it was not tubercle was obvious; that it did not belong to the sarcomata was also obvious; but the question to my mind was, What did it belong to? Where was it to be placed pathologically? This was the vexed question in my mind. I may here show some specimens which will serve to illustrate the remarks made by your President, and perhaps to give you a clearer physical view of the pathological changes which take place. I think that diagram was made in 1875 or 1876, and about the same period that section was also delineated. [Diagram.]

Here are some microscopic diagrams which I have scraped up from my portfolio, which have been kicking about five or six years, but which clearly

depict the lesions which illustrate this particular fact. I have here one or two microphyte specimen sections which were made at that time, and which, when placed side by side with those which have been produced by our President, will clearly show you the identity of the affection. I may note, in explanation of the failure which I appear to have suffered in this investigation, that the objects in the preparations which I have placed before you show this fungus, not in that sharp outline which would enable one to grasp its peculiar form and character, but they appeared to me as little, yellowish, more or less rounded or globular bodies, rather giving the impression that they might be calcareous particles, or some sebaceous masses; but I failed to make out the peculiar morphological character of the masses. You will see, therefore, this is not a new disease. The simple question about it has been its etiology—from what did it arise? That is the link which has been supplied to-day. We are perfectly familiar with every phase of it—clinical, pathological, and histological—in this country, and have been so for years, but we have failed to mark out the particular organism to which it has been due. I may make one or two more remarks in reference to it in regard to the articles to which I have referred. I collected a number of data, and it is very singular that some of the information which I recorded in the *Veterinarian* in 1877 was derived from the same gentleman who has been good enough to furnish the Brown Institute with the tongue before you. Captain Russell also supplied me with a considerable amount of information. I submitted to him and to others a series of questions by which I endeavoured to arrive at some conclusion as to its causation. Captain Russell, or one other of the gentlemen with whom I communicated, thought it might possibly arise from the fact of the animals feeding on barley straw. Now it is quite possible that something may turn upon this. Barley straw, we know, has within it those irritating objects or masses which are capable of setting up a certain amount of irritation in the mouth, and it is a question whether a surface lesion is necessary to the invasion of this fungus, whether certain substances may so irritate the surface of the mouth as to expose the tissue element to the invasion of the fungus. One answer I received, among others, was suggested, I think, by Mr. Goforth Wyer, that possibly frozen turnips might have something to do with it. One can understand that animals eating frozen turnips in a condition capable of incising the tongue, producing abrasions on the surface of the mucous membrane, may lay down those conditions for the invasion of the fungus. Whether this be so or not, it is quite a matter for future experiment. I think Mr. Verney also at that time sent us up to the College two animals for experimentation. One of those animals we watched carefully throughout the ailment without its being submitted to any special form of treatment, but the other we had to destroy. We allowed at that time a young calf to cohabit with these two animals, with the view of determining as to whether the disease was capable of being transmitted. However, so far as that single experiment was concerned, it proved negative. The calf did not become affected. Of course one experiment is of little avail in such a question, but it is one amongst the many which will tend to elucidate the capability of the disease being passed from one animal to another. Another experiment was that of inoculating an animal with matter removed from the tongue of one of the beasts; but that also failed to communicate the disease to the animals inoculated. There is another matter to which attention has not been directed in this disease—that illustrated in this diagram, noting the histological character and the changes taking place in the tissues of the tongue. I have marked out on the diagram a muscle fibre containing an S. . . . in longitudinal section and another in transverse section. Those organisms I found almost invariably associated with the microphyte referred to as the causation of the malady. Therefore, it is true that a considerable

amount of light has been thrown on the etiology of the affection by the able paper read by the chairman ; but so far as the pathology of the disease is concerned I think we are quite familiar with it. We have in the diagrams the histological changes delineated ; we have the course of the pathological changes also delineated, but notwithstanding that we had two microphytes under our eyes we failed to recognise it. There is just another point which I should like to remark upon, and that is the condition of this tongue on the table. This tongue does not give us any of those early changes which are peculiar to the disease, that is to say, where we have the tubercular formation studding the surface and invading the surface of the tissue. It would appear to me that this tongue manifests all those chronic lesions which time has induced and which resolution has brought about. The caseous nodules which have been here have been dispersed, and the tissues have been so far resolved ; but we have left, as a consequence of that resolution, a considerable amount of induration of tongue. The ordinary characters are well depicted in the diagram, which shows the nodular excrescence on the surface of the tongue. I think it is very likely that it will be found out that there are certain localities which are very highly disposed to it, especially the fens of Lincolnshire, Cambridgeshire, and similar districts.

Mr. SIMPSON said that in his experience there was very little of the disease in the locality of Windsor, although he had seen one or two cases, and also some cases in which the bone had been affected. He had not, however, given that attention to the subject that possibly he ought to have given. When the disease affected the bone there seemed to be little probability of curing it.

Mr. STOCK said he had lived in the counties of Cornwall, Somersetshire, Wiltshire, Dorsetshire, and Sussex, and in every one of those counties he had come across specimens of this disease and animals suffering from it. What he had heard at that meeting, however, had thrown a flood of light on the disease. He had formerly looked upon it as a purely local affection, not having anything to do with the constitution of the animal, and he never dreamt of attributing it to these organisms. In treating it locally he found that if he had removed the cheese-like deposits in any way and then applied a solution of alum, the animal did well ; but in many cases, of course, it would not yield to that treatment. It all depended on the time during which the animal had been affected. During the last twelve months he had had two cases : one was that of a young animal about eighteen months old which was very much emaciated and would not feed. The breath smelt very offensive, and on examination he found on the tongue perhaps a dozen of these sores, but they yielded to the alum treatment and good diet. About a month ago he had another case—that of a two-year-old heifer. He had to inspect her because it was thought to be a case of Foot-and-Mouth disease, as the tongue was protruding from the jaw and produced a discharge of saliva. Upon examination, however, he found that it was a case of this disease. The animal had been exposed to the weather some considerable time before he saw her, and that had induced Inflammation of the bowels and Diarrhœa, from which she died, and he had not the opportunity of examining the tongue after death. He had seen many cases of so-called wens in Lincolnshire, but he failed to connect the two diseases. He had also seen wens in animals' necks without sores in the mouth. He had thought that they were two distinct diseases.

The SECRETARY said that Schirrus or indurated tongue was frequently met with in country practice. Continental veterinarians seemed to be more scientific than the English. He had no doubt that many cases had been condemned as Pleuro-pneumonia, which were simply Tuberculosis, and he confessed that he committed the same error until he saw the article on

Tuberculosis written by Mr. Fleming. He had no doubt that the paper would have the effect of attracting the attention of the profession to the disease. Before Mr. Fleming's article on Tuberculosis appeared he had been in the habit, after condemning cattle for Pleuro-pneumonia, of going to the butchers and seeing the lungs, and he saw the particular growths and was quite in a fog about them ; but Mr. Fleming's article enlightened him considerably, so that now he could detect at any time the difference between Pleuro-pneumonia and Tuberculosis. The Schirrus tongue bothered veterinarians very much in practice. For instance, a practitioner was sent for to see a bullock. He noticed the swelling under the jaw, the tongue protruding, and the discharge of saliva, and on examining the tongue he found the whole substance very much enlarged and indurated and tender. He could understand Glossitis, where there was redness of the buccal membrane, or redness of the tongue, with very great pain, and that it might be produced by irritants, such as barley, straw, and frozen roots ; but these cases occurred in the summer when the animals were fed on grass. As regards the cure of the disease, he had tried every kind of treatment. Of course, Glossitis would yield to treatment with the aid of antiphlogistic measures, but in some cases he had applied stringent lotions, inserted setons under the jaw, and scarified the tongue, and done all sorts of things, but he had no hesitation in saying that in no case would the Schirrus tongue yield to treatment. Whenever there was a case of chronic Schirrus tongue he always recommended the animals to be killed. The fact was, if the animals were allowed to live and waste away in flesh, the reputation of the veterinary surgeon would be destroyed, because if the animal had no flesh on it it would die from inanition. In consequence of the enlargement of the tongue, it was unable to gather the food and to pass it from one side of the mouth to the other for mastication. He had recommended giving liquids, such as gruel with beer, but they could not keep a bullock alive in that way. It was the pathology of the disease that put them in such a tremendous fix. When a person asked them what caused it they might say, "Oh, it is a Schirrus tongue—a hard tongue." "Yes," would be the reply, "but do you know what the cause of it is?" Then the practitioner would be in a fog. Mr. Fleming's paper would stimulate them all to thought, and they would no doubt go to work and investigate the disease. In making a dissection of the tongue, he had found these yellowish bodies, but never knew what they were. At the Veterinary College they were never taught what these granular yellowish tubercles were or the cause of them. Mr. Fleming had spoken of the disease affecting the bones, but he (Mr. Martin) had always found it confined to the tongue itself. He had seen tubercules in all parts of the body. At one time he thought the tongue disease was cancerous in its nature.

Mr. MORGAN said he had two or three cases of the disease in the course of a year, and his experience bore out what Mr. Martin had said—that it was always confined to the tongue, and was not amenable to treatment.

Mr. SAMPSON said he had met with two cases of the disease—one was a milch cow. The whole of the tongue was not affected, but there were about twenty yellowish spots on it, with a sort of yellow cheesy matter surrounding the spots a quarter of an inch thick. For the first few days he did not make up his mind as to what was the matter. At first the people thought it was a case of Foot-and-mouth disease, but he was certain that it was not. He advised that the tongue should be mopped out, night and morning, with a solution of carbolic acid. He then tried strong solutions of chloride of zinc, and under that treatment the cow was kept for fourteen months. Then she met with an accident, fell into a brook, and was killed. She was never cured, but she was better. The saliva stopped dribbling from her mouth, and she milked fairly well. The other case was that of a two-year-old bullock which

was being fatted. It was a more severe case. The greater part of the length of the tongue was affected, and also the left-hand side. He took a great deal of trouble with the case. It belonged to a rich butcher and farmer, and as it was a favourite bullock he would not have it killed, but kept it for three years, feeding it on pulp, but he could never do any good with it.

Mr. HOGBEN wished to know if any member of the Association could state whether the disease was amenable to treatment or not. He had one case of indurated tongue, and certainly no treatment succeeded, and the animal was slaughtered. He also wished to ask whether the tumours described by Mr. Armitage in his work on "Cancerous Tumours of the Jaw" was a similar or identical affection.

Mr. SCOTT said there were many other diseases of the tongue which might be mistaken for that which they were discussing; for instance, Chronic Glossitis or Inflammation of the tongue. That would be perfectly incurable. An animal would not be able to gather its food or to swallow; but he had seen instances of young animals in which these cheese-like deposits about the tongue had been cured and the animal had been fatted.

The PRESIDENT, referring to the pleasure he experienced in having brought this subject first to notice in this country, through the medium of their Association, remarked, with regard to the treatment, that of course we must look at the pounds, shillings, and pence aspect of the case. When the disease has invaded the bones to a large extent, or the soft tissues of important organs, like the tongue or the heart, of course treatment is out of the question, because, as he said before, however much praise a surgeon may get for performing a very serious operation, if it takes a long time to recover, the veterinary surgeon would certainly not get that praise; therefore treatment in the majority of these cases, he was afraid, is rather to be ignored, because if an animal is attacked by the disease, and if the disease has advanced to a certain stage, it would be the most profitable plan to send it to the butcher. Nevertheless, that the disease is amenable to treatment in certain forms and stages is evident.

The PRESIDENT then said that the Veterinary Congress, which was held in London last year, was such a success that it was determined that an Association should be formed with the object of holding meetings of the entire profession at certain periods, and with certain definite objects. For that purpose the representatives of the various Medical Associations throughout the country met during the past week, to answer certain questions which had been placed before them. The questions were, first, as to whether a National Veterinary Association should be formed. That was decided in the affirmative. The next question was as to its objects. They were defined. The next question was as to the officers. They were settled. The next was as to the times of meeting. It was decided that a meeting should be held every three years, the first to be held in London on the day after the annual meeting of the Royal College of Veterinary Surgeons next year. It was also resolved that the succeeding meetings should be held in different parts of the country; and in those parts where the meeting was held, the Local Society should organise the details as far as possible. As the meeting was to be held in London next year, it was settled that the Southern Counties Veterinary Medical Association and the Central Veterinary Medical Society should take charge of the details. The President and Secretary of the Central Society, who were present, promised to lay the subject before the Society, and it now remained for the Association to select a sub-committee to assist in making the arrangements.

Mr. Simpson, Mr. Edgar, Mr. Martin, Mr. Barford, Mr. Gibbs, Mr. Walters, and Mr. Farrance were appointed as the sub-committee.

On the motion of the Secretary, seconded by Mr. Cawthron, it was decided to hold the next meeting in March, 1883, at Redhill, Surrey.

Mr. EDGAR promised to read a paper at the next meeting, on Swine Fever.

Mr. BARFORD proposed a vote of thanks to the President for his excellent and elaborate paper.

Mr. WALTERS seconded the motion, which was agreed to.

The PRESIDENT thanked the Association for their recognition of what he had done. He had, he said, a peculiar pleasure in bringing before his colleagues anything that was at all likely to promote their professional knowledge, or their scientific treatment of disease. In conclusion he proposed a vote of thanks to Mr. Batt for the trouble and care he had taken in preparing the microscopical specimens.

Mr. FARRANCE seconded the motion, which was agreed to.

Mr. BATT acknowledged the compliment, and the proceedings terminated.

YORKSHIRE VETERINARY MEDICAL SOCIETY.

THE last quarterly meeting for the year was held in the Queen's Hotel, Leeds, on Tuesday, the 24th October, the President, Mr. Jos. Freeman, in the chair. The following members were also present, viz.: Messrs. Jas. Freeman, T. Greaves, Jos. Carter, J. W. Anderton, J. H. Ferguson, J. M. Axe, J. Atcherley, G. Schofield, J. E. Scriven, John Tatam, H. Snarry, G. Whitehead, D. Spillman, W. F. Greenhalgh, H. Cooper, and the Secretary.

Messrs. P. Carter, Bradford; Wm. Noar and Jas. Kirkman, Manchester, students, were present as visitors.

Excuses for non-attendance were received from Messrs. Dray, Fryer, Danby, Bale, Peter Walker, John Freeman, Hardie, and Geo. Carter.

The minutes of the previous meeting were read and confirmed. Mr. Broughton proposed Mr. W. F. Greenhalgh, Leeds, and Mr. H. Cooper, Huddersfield, as members; Mr. Ferguson seconded. Carried unanimously.

Mr. CARTER nominated Mr. An. Briggs, Halifax. Mr. TATAM nominated Mr. Harry Carter, Bradford.

The SECRETARY introduced the subject of the Fleming Testimonial; several subscriptions were paid to the Secretary, and transmitted to the Treasurer of the Fund.

Mr. TATAM withdrew his resolution regarding the fixing of the Examination fee at one guinea; Messrs. Jas. Freeman, Atcherley, Snarry, and Spillman stated that they always charged one guinea.

Mr. GREAVES then submitted the following paper for discussion—a case of "Purpura Hæmorrhagica, or Blood Poisoning, with comments":—

"In following our ordinary occupation as veterinary surgeons, we now and then meet with cases out of the ordinary way, and those members having had large and long experience may have met similar cases before, and memory comes to their aid; but better still if the practitioner has made a practice of recording them, for then he can refer to such cases, and often the knowledge and assistance thus obtained is most useful to him should a like case recur again.

"I wish, now, to refer to a case of mine, which I had under treatment some years ago in the month of March. I looked upon it at the time as one simulating some of the characteristics of Purpura, but I felt then, and still feel, that it is hard to classify it in the same category; there was a mass of obscure phenomena—a variety of unexplained disturbances which are not easily defined or explained.

" *The Case.*

"This was a grey mare, rising four years old. She was in good condition, and apparently in perfect health. She was fired for curbs—fired standing—and tar-ointment applied, which was my custom. She had from a filley fed on good keep—beans, oats, bran, and chop. Generally she had been in high condition, which I think had much to do in creating that unhealthy state which now became aroused and developed. Nothing particular was noticed about her for the first two days; she was tied up the first night after the operation and was very quiet; after this she had her head, and allowed to run loose in a box. On the third day after the operation it was observed that there was a discharge from the off-nostril, and she was rather feverish; she had her head steamed and the throat blistered, and fever medicine given; in a few days the discharge ceased and the fever subsided, but about the seventh or ninth morning after the firing she was found very lame from a large swelling over the near stifle-joint—it was accompanied with great tenderness and pain. She was blowing, perspiring, and in a high fever; the swelling had come on suddenly, and without any apparent cause; at the same time the legs became somewhat swollen, the fired curbs loo'ked very angry. We fomented the swelling, and gave Aloes ʒiii, which purged her. This swelling subsided in three or four days, the swelling having burst, and an unhealthy, slimy discharge escaped; presently this healed, but in the meantime other swellings made their appearance—for instance, one upon the front of the face, the size of a man's fist, and three or four others, the size of hens' eggs, down the arms and thighs. She was now exceedingly stiff, and, if forced to move, would throw up first one hind leg and then the other, then a fore leg, in very great pain. During all this time she was in a high state of fever; pulse hard and 72; breathing very much accelerated; the membrane of the nose covered with red blotches, or in a state of ecchymosis, or covered with petechial spots. At one time the discharge was streaked with blood; upon the whole she appeared in as unhealthy and inflammatory condition as could be imagined. This would be the 12th or 14th day after firing. She had had frequent doses of alterative and diuretic medicine, or linseed oil; her appetite was tolerably good. She had had several doses of Calomel, and I now bled her about four or five quarts, and gave her Aloes ʒij, which purged her; the skin of her heels cracked and became very sore, and from the lower parts of her legs a greasy fluid commenced oozing in considerable quantities. You might scrape the skin gently with the back of a knife and the fluid would pour down the legs. Not only the skin of the heels, but the front of the pasterns, up to the knees and the hocks, were in this state; sometimes the blood would actually exude through the skin like a sieve. I had employed warm fomentation for twenty minutes to each leg twice a day, and nice poultices made of oatmeal or linseed meal and bran; the skin of the legs became covered with a good thick scab, and was exceedingly tender. The intense suffering my patient endured can scarcely be conceived. I had used Arnica lotion, lime-water, and linseed oil, palm oil, white lead ointment, etc., fed her on grass, carrots, swedes, linseed and oil cakes, etc. She had become very reduced during these twenty days' suffering; all the swellings had subsided excepting in the legs. I used Alum ʒij, in a bucketful of water: this did harm. I tried, externally, spermaceti ointment, marsh mallows, white wax, glycerine, and linseed meal, dissolved gum opium, and then Fullers' earth. Internally, I gave an occasional dose of Aloes ʒij and Calomel ʒj. She has been carefully put down on a good bed of straw daily, then carefully raised to her feet. It is now six weeks since she commenced—pulse has been 72-80 beats per minute all the time. I continued the Fullers' earth and poultices and Aloes

3i daily. From this date, April 30th, she improved fast, appetite improved, and became good, pulse lowered to 44, the bowels kept getting out of order, and required Aloes or oil every other day. On May 20th, two months after the attack, all the swelling had subsided, the hair coming on fast all over her legs, excepting the front of her hocks and back of her knees. Up to October 23rd she continued doing well, had become in good condition, and was working well. I occasionally saw her for years after—she kept in good condition and good health.

"*Remarks.*

"The above case will bear pondering over; it shows what can be done when nature is judiciously assisted. The care and attention exercised is, perhaps, more than is generally employed. Some horses are not worth it, but let us confine our inquiry to the nature of this case. Was the system tainted with some morbific matter before the firing, and the firing set up a ferment? Had the white corpuscles escaped through the walls of the capillaries? Or was it a case of Pyemia, and thus creating an obnoxious matter in the blood? In either case, it appears to me, there was a non-fulfilment of essential condition in the animal economy, and it was an absolute necessity that this poisonous or deleterious matter must be eliminated, or else the vital organs would be interefered with to such an extent as to be destructive of life itself."

In the discussion which followed, the principal topics argued were, What are the distinctive pathological conditions of the blood in these cases? What are the causes giving origin to these affections? What is the pathological difference between Purpura and Scarlatina, and the best method of treatment to be adopted? Messrs. James Freeman, Joseph Carter, Axe, Snarry, Tatam, the President, the Secretary, Mr. Greaves, took part in the discussion.

The Treasurer (Mr. Ferguson) submitted the Annual Financial Statement, showing £117 5s. 10d. to the credit of the Society.

The election of officers for next year resulted in Mr. J. M. Axe, Doncaster, being elected President; Messrs. Joseph Freeman, ex-President, Joseph S. Carter, and H. Snarry, Vice-Presidents; the Secretary and Treasurer being re-elected.

Mr. JAMES FREEMAN proposed, and Mr. AXE seconded, a vote of thanks to Mr. Greaves for his kindness in introducing a subject for discussion. Carried unanimously.

Mr. GREAVES proposed, and Mr. CARTER seconded, a unaminous vote of thanks to Mr. Joseph Freeman for his service in the chair.

Refreshments, by invitation of the Leeds members, were provided at the conclusion of the meeting.

IRISH CENTRAL VETERINARY MEDICAL SOCIETY.

A SPECIAL meeting of the above Society was held in the Grosvenor Hotel, Westland Row, Dublin, on Thursday, the 16th November, when the following gentlemen, members of the Society, attended:—Messrs. John Malcolm, V.P., Enniscorthy; T. H. Simcocks, V.P., Drogheda; L. Hunter, J. Freeman, G. B. Miller, W. Pallin, Curragh Camp; J. D. Lambert, I.V.S., Army; J. J. Sperring, Hon. Sec., and a visitor.

The business on the paper was: Election of officers for the ensuing year, a ballot for a new member, and a paper by Mr. John Freeman, jun., of Kingstown, on "Influenza." In the absence of the President, who was confined to his bed from the effects of an accident, Mr. John Malcolm, V.P., was moved to the chair. The minutes of the previous meeting were read and signed, and some correspondence laid before the meeting, including letters of apology from Messrs. R. H. Bird, Limerick; W. C. Josephs, Dublin: T.

L. Simcocks, Drogheda; T. H. Prior, Parsonstown; M. Hedley, Veterinary Department, Dublin Castle; A. J. Kelly, Dublin; James Young, Newry; J. H. Asher, Cork; James Preston, Mallow; John Bell, Clonmel; F. F. Collins, Dublin; G. Newson, Arklow; and S. Adamson, G.V.S., Greenore.

The name of Mr. John H. H. Peard, of Cork, was submitted for ballot, and that gentleman was duly elected as a member, and Mr. H. J. Kelly, of Ballina, was proposed. Officers were elected for the coming year as follows: Mr. John Malcolm, President; Messrs. L. Hunter, W. Pallin, J. D. Lambert, Vice-Presidents. The Hon. Secretary and Treasurer, Mr. Sperring, was re-elected.

On the motion of Mr. Sperring, seconded by Mr. Pallin, it was resolved that Mr. T. D. Lambert, the outgoing President, be elected an honorary associate of the Society, in recognition of his services in its behalf, and his having been the first occupant of the presidential chair.

The newly-elected officers returned thanks for their election, and severally expressed their intention of doing all in their power to further the interests of the Society. Mr. J. D. Lambert said he believed the time would come when any Irish practitioner who had the interests of his profession at heart, would consider it to be essential to his professional dignity to be an active member of the Association; and Messrs. L. Hunter and W. Pallin expressed themselves in similar terms.

The CHAIRMAN then called on Mr. John Freeman, Kingstown, to read his paper on "Influenza."

He read as follows:—

INFLUENZA.

Mr. President and Gentlemen,—In appearing before you this evening in the capacity of essayist, I feel honoured; and although I may not have, in the brief time at my disposal, anything new to offer for your sideration, still I may at least, by promoting a discussion, succeed in eliciting information.

The subject I am about to introduce is one of vast importance, not only to us as veterinary surgeons, but to the public generally. To the veterinary surgeon, because no disease that I am acquainted with offers more food for earnest thought, or more scope for scientific research to the general public, on account of the havoc it causes amongst their horses, and consequent loss. Gentlemen, the disease I refer to is Influenza.

The name "Influenza" we get from the Italian physicians, as they looked upon it as due to some occult influence, whether planetary, atmospherical, or telluric; we have also many other terms signifying the same disease, such as Distemper, Epidemic Catarrh: on the continent it is designated Pulmonal Typhus and Horse Sickness.

The disease appears suddenly amongst us, giving no indication of its origin, and spreading rapidly from one stud to another. Our thoughts, then, must surely be directed towards its infectiousness. What is its cause? on what agency does it depend? And how can we prevent its spread?

Is Influenza infectious? Some believe it is not; but I am convinced it is. Certain it is, that upon our opinion concerning this question will our idea of the whole nature of the malady hinge, for were it not dependent upon any specific organism for its production, and not by this means passed from one animal to another, we might look for its cause solely to disturbances in the forces of nature around us—in the electrical or other condition of the atmosphere acting on the nervous system. In such a case the disease produced would not be transmissible; we should neither trace its appearance to the advent of a particular animal, as in some instances we now can, nor should we find in the location, definite course, and mode of dissemination of the disease those facts which impress upon the minds of most of us the conviction of its infectious nature.

Grant it this attribute, and it follows that we must look for its cause to some contagium ; there must be an invasion of the system by a specific infecting organism, which, finding a congenial *habitât*, reproduces agents of like virulence, and powerful to produce identical symptoms in animals of the same species.

We frequently find this disease occurring after an unusual state of the barometer. Such changes produce a state of system favourable to the epizootic, possibly have some effect upon the contagium itself ; this would imply that the germs of the disease are around us, lying in wait for circumstances favourable for their development. Is it improbable ?

Infectious diseases have long been considered to owe their communicability to a specific form of matter excreted from the body. Recent investigations have proved the offending agent to be among the more or less easily distinguished solid particles contained in the virulent secretion or discharge. Since the discoveries of Pasteur and Tyndall, these bodies have been termed "germs," and these are of many forms—such as Bacteria, Baccilli, Micrococci, Vitriones, Spores, etc. ; their extreme minuteness is a great obstacle to their investigation by an ordinary practitioner. Disease germs arise solely from pre-existing germs, and do not spontaneously result from tissue changes. In many of the specific diseases a special organism has been identified, isolated, and experimented with, and it is found that the products of any one kind of germ will cause, on inoculation, the disease in which the original germ was reared ; consequently, each disease has its own special germ. These germs may find their entry to the animal in many ways, as by transmission through the mucous membrane of the air-passages, alimentary tract, or through wounds or abrasions of the skin. After invasion, the different kinds vary in their mode of procedure ; some run a definite course, and then become eliminated from the system ; others never leave the animal free from their presence, even though there is apparent recovery from the disturbance they produced. Disease-organisms received into the system do not at once give rise to untoward symptoms ; a period of incubation ensues, during which growth and multiplication of the agent progresses.

Returning to our subject, Influenza may be defined to be a peripheral indication, manifested through the medium of the olfactory nerves, of a centric irritation of the cerebro-spinal system. (The weak heart, depressed temperature, laboured breathing, and other evidences of depression may be thus accounted for.)

The disease is the result of the introduction into the system of a specific poison, which multiplies itself during the malady. It is propagated by infection, breath, and general emanations from the body, and it is a specific catarrhal inflammation of the mucous membranes of the air-passages, with severe constitutional disturbance. It is frequently epidemic, early implicating the naso-laryngo and bronchial mucous membranes.

Sudden changes of temperature appear to assist the development of the influenza poison, and exposure to cold predisposes the animal to the disease ; but neither of these causes is sufficient of itself to produce it. Whatever the specific material may be, it must exist in the air ; it cannot be in the food or in the water. This conclusion leads us to two suppositions : 1st, that the agent is reproduced either in the air or in the bodies of the sick ; and upon this point Dr. Parkes makes the following observations :—

"It must be a specific agent of some kind. From the earliest times authors have come to this conclusion. The similarity of the symptoms in different epidemics show that this agent is the same in its successive invasions. If it be connected with any unusual meteorological or atmospheric condition, this had not been detected, and it cannot be at present even guessed at. At the same time, this agent must be in the air ; the

diffusion is too rapid to suppose it to be conveyed by water; besides, water-poisoning is usually localized. It cannot be attributable to food. There remains only the air as a medium of communication, and that this is so seems also shown by the way in which it can attack vessels at some distance at sea. There is, then, some special agent in the air. This cannot be a gas; no gas could spread in this way without utter dispersion and destruction. Nor can it be any molecular matter driven through the air, arising from some unknown telluric source, for this would be equally diluted and dispersed. The agent evidently cannot own one single and primary origin. It may, indeed, issue from one spot, but all the phenomena of its spread show that it must in its transit reproduce itself; otherwise, if a gas, it must be rendered innocuous by dilution; or, if an organic matter, by oxidation; if a suspended mineral matter, by subsidence. It must increase, and if the subject is gone into, the more fully will the idea gain upon the mind that there must be a continual reproduction of the agent to a greater or less extent in different places."

The predisposing causes are crowded, damp, ill-ventilated stables, bad food, and overwork; but no amount of care will exempt them from it, as it appears in the stable of the nobleman as well as that of the poorest carter. As many diseases of very different kinds have been described under the head of Influenza, I wish to state before proceeding with the symptoms, that those symptoms I will enumerate are of Influenza according to my definition.

Symptoms.—Sudden attack, often without any premonitory symptoms. Extreme listlessness and prostration. When in the stable the animal stands almost immoveable, the limbs fixed, and can only be displaced with difficulty. The eyelids swollen, and appear to cover the eyes; tears course down the face; head carried low; stupour and indications of headache; rigors; weak, compressible pulse, sixty to seventy per minute; heart's pulsations very perceptible; respirations hurried, shallow, and difficult; sore throat; painful cough; parotideal and sub-maxillary glands tumefied; the coat dry and staring; legs, ears, and nose cold; the Schneiderian membrane is dry and red; temperature 102° to 105°. These symptoms continue for two or three days; the discharge from the nose becomes flaky and profuse; conjunctivæ of one or both eyes may be inflamed, and vision may be impaired. As the disease advances, the cough becomes deep, sonorous, and painful; there is great soreness of throat, and inability to swallow food or drink, indicated by quidding of the food. The fæces are dry, hard, and often covered with mucus; the urine high-coloured and scanty, often tinged with bile, sometimes opaque. About the fifth day the symptoms abate, the cough becomes loose, pulse improves in tone, heart becomes less jerky, and the appetite commences to return. The leading character of the disease consists of an inflammation of the naso-pharyngeal mucous membrane, and the secretory organs participate in the disease. Dropsical swellings appear on the belly, legs, and chest, due to the debility of the circulation. Should Bronchitis supervene, it is indicated by the heaving of the flanks, dilatation of the nostrils, and great difficulty of breathing; rapid pulse. On auscultation, we detect rough inspiratory murmur over the lower part of the trachea, also behind the scapula, with sibilant *râle* over the greater part of the chest. The visible mucous membranes become livid, and the animal is in a semi-torpid state from the action of the non-oxidized blood on the brain and medulla oblongata; the discharge from the nose is scanty, and often tinged with blood; unless relieved, the animal sinks about the sixth day. The pneumonia of Influenza is characterized by the rapidity of pulse, the dull soft cough, crepitation on auscultation, cold extremities, and dulness on percussing the lower parts of the chest. True hepatization of the lung in

Influenza is a rare occurrence, the exudation being more serous than plastic ; and in consequence of the asthenic nature of the inflammation, there is a tendency to gangrene and disintegration of the lung tissue, characterized by fœtid breath and cold sweats, rapid emaciation, and death. Pleuritis is frequently associated with the pneumonia. Colic is not an unusual accompaniment, showing sympathy with the catarrhal form.

Towards convalesence, rheumatic complications often appear ; the animal becomes restless and uneasy ; the joints commence to swell, and emit a crackling sound on movement. The inflammation may localise itself in some muscle or tendon—generally involving the faxors below the knee and hock, which causes severe lameness that remains for a long time.

Prognosis properly treated rarely fatal.

Treatment.—Influenza, like all other specific diseases, runs a definite course, and medical treatment can in no way cut it short. Consequently, the aim of the practitioner must be to relieve the distressing symptoms, support the strength, and allay the irritability.

The primary and most essential treatment consists in placing the animal in comfortable quarters, having him properly clothed and bandaged, supplying him with light and easily-digested food—such as bran-mashes, boiled barley, oats, or linseed, never forgetting to allow an abundance of cold water, in which some Pot. Nit. should be dissolved. When the cough is troublesome, a stimulating liniment or blister should be applied to the throat, and inhalations of the vapour of warm water afford much relief, while the nasal discharge is matured. When prostration is very marked, Spts. Æth. Nit., Ammon. Carb., Spts. Ammon., Arom., may be administered; but if possible they should be avoided. Cathartics are to be specially avoided. Should constipation be present, enemas give relief. When complicated with Bronchitis, Am. Carb, Camphor, Syrup Squills, and Gum Ammoniacum, are most useful agents, coupled with the application of some liniment along the course of the trachea and sides. When the liver participates in the disease, characterized by yellowness of the visible mucous membranes, torpidity of the bowels, etc., mild laxatives generally give relief in this complication.

The sequelæ of Influenza are mostly Rheumatism, "Roaring," and occasionally Glanders and Farcy.

The paper was listened to with considerable interest, and produced a most lively discussion, in which all the members present took part. The especial feature of the discussion was the question of the contagious nature of the disease. That it is highly contagious in its nature was the unanimous opinion of those present. The treatment recommended by the essayist in his paper was also discussed at length, and approved ; and particular stress was laid by all who took part in criticising the paper, on the absolute necessity of the nursing and general comfort of the patient, together with the free use of stimulants of an alcoholic nature—as stout, ale, etc.—during the course of the malady.

Mr. MALCOLM proposed, and Mr. PALLIN seconded, a cordial vote of thanks to Mr. Freeman for his paper, which evidenced considerable thought and study, as well as experience of the subject. Mr. Freeman suitably replied.

It was arranged that the next regular meeting of the Society should be held in January next, when the incoming President's address will be read and other business transacted.

The usual vote of thanks to the Chairman was passed by acclamation, and the members afterwards dined, and passed a very pleasant evening together.

J. J. SPERRING, F.R.C.V.S., *Hon. Sec.*

MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

THE forty-seventh meeting of the above Association was held at the Hop Market Hotel, Worcester, on Friday, October 27th, the President, Captain Russell, in the chair.

Present:—Professor Walley, Honorary Associate of the Society, and the following members:—Messrs. F. Blakenay, A. Over, E. Stanley, O. Hills, A. B. Proctor, H. D. Pritchard, T. Chambers, H. Blunt, A. Bowles, H. R. Perrins, H. M. Stanley, G. Carless, W. Dale, F. W. Barling, E. Beddard, J. C. Barling, H. Goulè, H. Olver, H. Collett, and R. C. Trigger.

Visitors present:—Messrs. A. C. Robertson, F. H. Pinkett, J. Soulsby.

The SECRETARY stated that letters of apology and telegrams had been received from Messrs. Geo. Fleming, H. Goodall, A. Green, H. J. Cartwright, Faulkner, Bland, Cox, Tipper, T. Greaves, and Professor Williams.

Mr. Robertson, of Worcester, and Mr. Pinkett, of Worcester, having been duly nominated, were unanimously elected members of the Association.

The SECRETARY then read a letter from Mr. Geo. Carless, thanking the Society for the letter of condolence which they had caused to be addressed to the widow and family of the late Mr. Carless, of Stafford. It was resolved that a copy of the letter of condolence be engrossed on vellum, and presented to Mrs. Carless, senr.

Mr. PERRINS stated the business done at the meeting of Council the previous day, which was attended by Mr. Blakenay, Mr. Greaves, and himself.

Mr. E. STANLEY announced that subscriptions to the Fleming Testimonial Fund were coming in satisfactorily, about thirty pounds having been already subscribed by members of the Association. He pointed out the necessity for promptitude on the part of those gentlemen who had not already subscribed, as the lists would close at an early date.

Some correspondence with the Secretary of the Veterinary Benevolent and Defence Association having been read, on the matter of the appointment of a Life Governor in place of the late Mr. Carless; in the absence of Mr. Greaves, treasurer of the Benevolent and Defence Association, it was resolved that the discussion of the matter be adjourned to next meeting, when it was hoped that gentleman, and probably the Secretary also, might be able to attend.

Mr. A. OVER, of Rugby, then read an excellent paper on the Soundness of Horses, dividing his subject into three headings: Legal Soundness, Practical Soundness, and Serviceable Soundness.

An animated discussion naturally ensued, in which the President, Captain Russell, Professor Walley, Mr. E. Stanley, Mr. Proctor, and others took part.

At 4.30 it was resolved to adjourn the debate on Mr. Over's paper until the next meeting of the Society.

Professor WALLEY then kindly exhibited and explained the use of several of his latest improvements in veterinary instruments, amongst them being an ecraseur, into the scabbard of which an embryotomy knife could be placed and used.

Also an aspirator, which could be used as a syringe, irrigator, puncturator, etc. Also a very ingenious instrument which could be used as a dilator, speculum, or retractor with concealed bistoury.

Great interest was manifested, and a hearty vote of thanks accorded to the Professor for the part he had taken in the proceedings of the day.

Birmingham was decided upon as the next place of meeting.

A large party then adjourned to dinner, and, under the presidency of Captain Russell, a very enjoyable evening was spent.

ROBERT C. TRIGGER, *Hon. Secretary.*

CENTRAL VETERINARY MEDICAL SOCIETY.

A MEETING of the above Society was held on the 2nd November, Mr. G. Fleming, Vice-President, occupying the chair. The annual dinner was fixed for the same evening, and the business of the meeting was therefore confined to the reception of the President's address, which was read by the Secretary.

The PRESIDENT thanked the Society for the honour conferred upon him by his unanimous re-election, and expressed his determination to fulfil the duties of the office to the benefit and interest of the Society, and, as far as was in his power, to make the coming session as successful as any of the preceding ones.

It was, he reminded the Fellows, the twelfth session, and he congratulated them on the satisfactory state of their Society, both financially and in regard to the good attendance at their numerous meetings.

The papers and subjects brought before them had been most interesting and instructive, and he asked those present to assist again by bringing essays, pathological specimens, or records of cases of interest, expatiating on the advantages to be thus derived by the evolution of new ideas, and on the benefit reaped by the essay writer, both from working up his subject and from the discussion called forth.

He said that the only cause he had for regret, with regard to the meetings of the past session, was the absence of many of the oldest Fellows of the Society, several of whom never attended, and others but seldom, rendering it evident that they took little or no interest in the Society's welfare; and he remarked that he could not let the opportunity pass without expressing his sincere regret that our Teaching School was so seldom represented at the meetings. This was not the case with the Scottish societies, in whose meetings the veterinary professors in the vicinity took great interest. Our Veterinary College was represented in the Central Society by one Fellow and one Honorary Fellow only, and it was, he said, seldom that either of them were seen at the meetings.

He then considered the question of election to the Council of the Royal College of Veterinary Surgeons, and thought the Society had too long been kept from exerting its influence to secure the election of any member to that body; but that it was now a question for consideration whether this influence should not be exercised to elect representative members—Fellows who take part in the work of the Society.

Of the several Councilmen who were Fellows of the Central Veterinary Medical Society, only one (the present President of the R.C.V.S) could be called a worker at its meetings.

After reviewing the progress made by the Committee appointed to consider the founding of the National Veterinary Association, he alluded to the provisions of the Veterinary Surgeons Act, more especially in reference to the clause giving the power to remove from the register the name of any member who was guilty of gross misconduct; this was, he thought, most necessary. Referring to the very able introductory address delivered by Professor Axe at the Royal Veterinary College, he was pleased to hear that increased facilities were afforded the students for acquiring practical knowledge; he thought this knowledge should be demanded by the examiners before a diploma was given. He did not expect that a young man just passed should be as skilful a practitioner as those of several years' standing, but, on

the other hand, it must lower the status of the profession in the eyes of the public to turn out men unable to diagnose the simplest forms of disease. He concluded with wishes for the prosperity of the Society, and a hope that the festivities of the evening would pass off pleasantly and harmoniously.

Mr. FLEMING said he endorsed Mr. Woodger's remarks in reference to the absence of many of the older Fellows and the Professors from the school. He said the reason was well known why the President felt unable to be present and take part in the convivialities of the evening, and he proposed that a letter should be sent to the family of the late Mr. Joseph Woodger, expressing the sincere sympathy of the Fellows of the Society.

This was immediately agreed to.

Both the meeting and the dinner following it were held at the Café Royal, Regent Street. In addition to some visitors, the following Fellows dined together, passing a most enjoyable evening :—Messrs. Hall Brown, T. Burrell, Capt. Russell, Messrs. A. R Charles, J. Broad, W. South, H. R. Shaw, A. Broad, Arthur Broad, W. Mole, F. W. Wragg, H. I. Hancock, T. S. Price, R. Ward, J. Rowe, G. Fleming, F. G. Samson, T. G. Batt, C. Sheather, and T. Moore.

THE LANCASHIRE VETERINARY MEDICAL ASSOCIATION.

THE usual Quarterly Meeting of this association was held at the Blackfriars Hotel on Wednesday, September 27th.

The president, Mr. Alex. Lawson, in the chair, and the following members and friends present : viz., Messrs. Greaves, W. A. Taylor, Woods, Whittle, Locke, Roberts, Leach, Bunnell, A. Darwell, Darwell, Ingram, Wilson, I. B. Taylor, Holmes, Chadwick, Stone, Bottomley, Harrison, Cockshoot, Dacre, Elam, Hopkin, Briggs, Faulkner, Wilkinson, Marshall, Michaelis, Kirkman, Challinor, Davidson, and Wolstenholme.

The minutes of the previous meeting were read and confirmed, and the apologies for non-attendance were presented.

The question as to the desirability of celebrating the twenty-first year of the existence of our society by holding a soirée and ball next came up for final decision, and was negatived,

Mr. Frank Bottomley and Mr. Harrison were nominated for membership.

Mr. ELAM now read his promised paper on "Quacks and Quackery" as affecting our profession. He referred to the advertising in newspapers, to the practice of some who lease compounded medicines, which, in the words of one puffing handbill, "can be obtained at every blacksmith's shop in town or country ;" and drew attention to the pamphlet of a F.R.C.V.S., by means of which he seeks to monopolise the performance of a certain operation. From this Mr. ELAM passed on to review the custom of wholesale druggists who append to their prices current the formulæ of various veterinary medicines, and which in some cases are not restricted to the profession, but are circulated amongst horse owners indiscriminately. The paper was written in a most charitable key, and sought to show how (in the former instances) veterinary surgeons injured their own reputation, and also cast a reflection on our calling, which is a profession requiring a liberal education as well as special training, and not one of compounders of something warranted to cure this, that, and the other. In the discussion which followed many of the members joined, and all deprecated advertising and puffing as certain to injure the profession in the estimation of the public.

Mr. E. FAULKNER then read his paper on "Quidding and allied ailments in the Horse," as follows :—

My attention is frequently called to horses quidding their food; some are readily set right, whilst others prove intractable. To these latter I beg to invite your attention, and shall be very much pleased to receive your opinions and advice.

The simpler cases of Quidding arise from the edges of the molar teeth becoming sharp, cutting the tongue upon the inside, or the cheek on the outside, during the process of mastication; or it may proceed from great unevenness on the grinding surface of the molars, some tooth or teeth projecting considerably beyond the level of the other teeth, and such projection passing into a considerable hollow on the opposite row of molars, or, as in some cases, in front, in others behind the row of molars opposite. Other irregularities act as a cause, such as, for instance, defective dentition, and where there are considerable spaces between the teeth; these spaces get filled with food, which decomposes, causing inflammation of the gums, followed not unfrequently by decay of the fangs or crown of the teeth. Again, you may have the lower maxilla too narrow, attrition imperfectly performed, leaving one edge without wear and overgrown, the other sustaining all the wear, and completely worn down to the gums and alveoli.

Occasionally a case of inveterate Quidding is met with, irrespective of age, where we are unable to detect the slightest defect in the teeth or any approach to paralysis of the lips. You may feed on boiled food, chop or hay, or indeed any kind you choose, apply iodine preparations to the cheeks, lips, and throat, blister or seton, and administer nerve stimulants, without improvement.

There are other cases in which it would appear that there is a defective state of the organs of deglutition; a large proportion of the food, after mastication, is ejected through the nostrils; there is no particular tenderness perceptible about the throat or fauces, but in making the attempt to swallow, a fit of coughing takes place, and quantities of the masticated food are expelled through the nostrils.

This state I have known continue many weeks and months, in old and also in young horses, associated with, and subsequent to, a catarrhal attack, and also disassociated therewith.

It is not at all an unfrequent occurrence to see the water a horse drinks pass back through the nose in cases of sore-throat, when the pharynx is in a state of inflammation, or Quidding where you have pus in the guttural pouches; but cases where large quantities of masticated food are ejected through the nostrils are of less frequent occurrence.

During the last two or three years we have had several of these cases, and have an inveterate one at the present time. You may feed as you like, use the galvanic battery, gargle, blister or seton the throat, apply iodine, administer nerve stimulants, and yet no improvement.

I ask, What is your diagnosis, prognosis, and what treatment would you recommend? I regret very much not to have had an opportunity to give you the post-mortem appearance.

On the termination of the discussion which followed, Mr. BRIGGS proposed, "That a vote of thanks be given to Messrs. Elam and Faulkner for their interesting papers;" this was seconded by Mr. ROBERTS, and carried unanimously.

JOHN B. WOLSTENHOLME, *Hon. Sec.*

EDINBURGH NEW VETERINARY COLLEGE.

THE winter session of the New Veterinary College at Gayfield was opened on Wednesday, 25th October. Principal Williams occupied the chair, and there was a large attendance of students and visitors. Amongst others, the

following veterinary surgeons were present :—Professor Macqueen, Glasgow Veterinary College ; Messrs. T. Greaves, Manchester ; Connochie, Senior and Junior, Selkirk ; Borthwick, Kirkliston ; Cunningham, Slateford ; Aitken, Dalkeith ; Aitken, Edinburgh ; Rutherford, Edinburgh ; Black, Howgate ; Cameron, Berwick ; Freeman, Dublin ; Adamson, Bolton ; Phillips, Piershill ; Reid, Leith ; Philps, St. Andrews ; Brock, Glasgow ; Spruell, Dundee ; Storie, E. Linton, etc. ; and Alderman and Mrs. Schofield, Bradford ; Councillor and Mrs. Ryan, Manchester ; Dr. Murray, Leith ; Mr. Falconer King, C.A., Minto House ; Hunter, Macalpine, Minto House, etc. ; Professors Hunter, Macalpine, and Macadam, New Veterinary College. The inaugural address was delivered by Professor Lewis, who at the outset of his remarks gave a brief retrospect of the college, which since its foundation in 1873 had been attended with most gratifying success, the number of students having increased from 61 in the opening year to 146 at the end of the last session. That increase in the classes had rendered the accommodation of the present building totally inadequate for their requirements, and in consequence the Principal had been compelled to take steps to provide larger and more suitable premises. Of the 146 students, 130 presented themselves for examination before the Examining Board of the Royal College of Veterinary Surgeons, and 93 succeeded in passing. At the "junior" examinations 46 students were presented, and 34 passed, 5 with "great credit ;" and at the "second" examinations 57 students were presented, and 35 passed, 13 with "great credit." Out of 36 students who presented themselves for the final examination, 26 received their diplomas, and were admitted M.R.C.V.S., 8 having obtained the standard of "great credit." Turning to the affairs of the profession generally, the Professor dealt with the vast improvements made in the methods of conducting microscopical research. The profession had been rather tardy in recognising the worth of the microscope as an auxiliary in the study of pathology, but the recent discoveries by means of the microscope in the pathology of Splenic Fever, Tuberculosis, Fowl Cholera, Louping-ill, and similar diseases, had materially assisted in demonstrating its value. As illustrating its practical worth, he referred to the discoveries in connection with Tuberculosis and Louping-ill. They had learned that the former disease, which occasioned one-seventh of the deaths of the human race, was caused by certain rod-shaped bacteria. Tuberculosis was not confined to mankind, but was very prevalent among the lower animals, particularly our beef and milk producers, and it had been recently calculated that in London annually 7,500 cattle affected with this disease were slaughtered for food. The danger attending tuberculosed flesh and milk was no imaginary one, for it had been proved over and over again by experiment that the disease can be readily communicated to the lower animals ; and if to cattle, sheep, and pigs, why not to man ? In Louping-ill, which annually destroyed great numbers of our sheep, we had another disease due to the action of micro-organisms. Professor Williams had discovered that a jelly-like substance found in the spinal canals of sheep affected with the disease, contained quantities of a bacterial mycelium, which gave a clue to the cause of the disease. Even in those sheep whose spinal canals did not contain the jelly-like substance, the bacteria could readily be detected by cultivating a little of the fluid in mutton broth, when similar results were obtained. In order to solve the connection between Ticks and Louping-ill, numbers of ticks were collected from louping ill sheep, and subjected to microscopical examination and to cultivation. It was then discovered that they also were infected by bacteria resembling those obtained from the sheep. One link was still wanting—the production of the disease experimentally by inoculating sheep with the bacterium-infected tick, but any advance in that direction was forbidden by the Anti-Vivisection Act. In conclusion, Professor Lewis expressed the

opinion that the time had now arrived when the examinations for the profession should be conducted by veterinary surgeons without the aid of medical men; and he also thought their curriculum a little too faulty, and suggested alterations which he believed would tend to its improvement.

Principal WILLIAMS then addressed a few words to the students. Having referred to the success which had attended the present college, he proceeded to give a general description of the premises to be built in Leith Walk, and said they would include a lecture room capable of holding 250 persons, another to accommodate 150 persons, a museum and dissecting room, a chemical laboratory, a physiological and pathological laboratory, bone rooms, etc. There would be about 20 loose boxes, accommodation for cows, a dog infirmary, covered exercise yard, etc. After alluding to the cause of Louping-ill, the Principal went on to speak of the recent poisoning of the Fifeshire hounds. Some of the carcases had been sent to him, and he examined their blood with the microscope, and found it teeming with an organism. He cultivated this repeatedly, and found it to be exactly alike in all of them. There was no putrefaction, and his conclusion was, that the hounds must have been poisoned by eating some animal which had died of this special organism.

Mr. CONNOCHIE, Selkirk, proposed a vote of thanks to Professor Lewis for his address, and pointed to his successful career as an example to all students.

Mr. GREAVES moved a vote of thanks to the Chairman, and advocated the election of none but veterinary surgeons to the examining board.

The proceedings then terminated.

GLASGOW VETERINARY COLLEGE.

THE Introductory Lecture to the Winter Session of the Glasgow Veterinary College was delivered on 24th October, by Dr. Cleland, Professor of Anatomy, University of Glasgow. Principal M'Call occupied the chair; and, in addition to a large number of students, the following gentlemen, among others, were present:—Rev. Mr. Blair, Cambuslang; Rev. Mr. Watson, Glasgow; Dr. Roberts, Wales; George Stodart, Esq., of Broom; Andrew Hoggan, Jun, Esq., of Camphill; Mr. Johnson, Letterick; Captain M'Call, Mr. Walker, and Mr. M'Intosh, Glasgow; Professors Knox, Cooke, and Macqueen, Glasgow Veterinary College.

The following veterinary surgeons were also present:—Professor Walley, and Mr. Rutherford, Edinburgh; Mr. Thomas Campbell, Kirkcudbright; Mr. Pottie and Mr. Houston, Paisley; Mr. James Martin, Nantwich; Mr. D. Constable, Inchture; Mr. J. M'Call and Mr. W. Wright, Ayr; Mr. John Freeland, Blairgowrie; Mr. R. M'Farlane, Greenock; Mr. Gairdner, Helensburgh; Mr. Jarvie, Wishaw; Mr. Peddie, Cathcart; Mr. Douglas, Dunoon; Mr. Weir, Airdrie; Mr. Bond, Holytown; Mr. Carnduff, Howwood; Mr. Kerr, Dalry; Mr. Fred Foster, Cardiff; Mr. John Freeman, Kingstown, Dublin; Messrs. Boyle, Mitchell, Wyper, Hill, Weir, Blue, M'Queen, Renfrew, and Dickie, Glasgow.

Professor Cleland, who was introduced by the Chairman, said:—

Gentlemen,—It is a matter for gratulation that this great city is possessed of a Veterinary School so well equipped, so successful, and so rapidly rising in public estimation as this College is. I recall to mind its commencement and the difficulties with which the enterprise was surrounded, and wonder often at the indomitable perseverance with which Principal M'Call, having formed his resolution unaided and in spite of all discouragements, persisted steadily in his purpose till there grew in his hands, as we see to-day, this college with its numerous students, its excellent arrangements, and its increasing

reputation. Every one who desires to see Glasgow occupy the position as a centre of medical research, which the extent of her population and the antiquity of her University alike render it proper that she should, must be glad that her Veterinary College prospers. For the art of Medicine is one, whether applied to man or to the lower animals. The laws of life are the same in both, the methods by which those laws are to be investigated are the same for the veterinarian as for the physician, and the co-operation of the one with the other in research is of the greatest importance. It is a common and a most justifiable thing to speak of medicine as a noble profession. As a general rule, men call it so, because its mission is to save life, which is a fine thing to do. Undoubtedly, the importance which attaches to human life invests with importance the profession which seeks to guard and prolong it. The veterinarian occupies himself with the same laws of life, and though his department does not include the care of life as exhibited in man, there are often human interests committed to him of very great importance. Not only is valuable property entrusted to his charge, the success of arrangements and expeditions of the gravest possible kind may be largely dependent on his skill. But I venture to think that the thing which most ennobles medicine is not the end which it has in view, but the means by which it is sought that the end should be accomplished. It is not the final cause of its existence, but the efficient cause of its success on which medical art must depend for its dignity. There are modes of practising medicine which are not noble, and there have been times when such modes have been dominant. There is nothing noble or praiseworthy in prescribing physic or performing manipulations thoughtlessly on the strength of traditional rule, for the mere reason that so you have been taught, or that so others have been in the habit of doing before you. But, with open and earnest eye to wait upon Nature, and learn from her what her doings are, how her operations are conducted, what those processes are, the sum of which we refer to under the name of life, and how they are modified by each change of circumstance:—to do this is to subject your whole habits of thought to such a discipline as cannot fail to have an ennobling effect; and the profession whose objects are sought by such means is rendered noble indeed. Here, then, is the common bond of all medical study, the link by which the veterinary branch is made one with that more advanced art which deals directly with the health of man. We want to see the veterinary art more and more thoroughly scientific. It is with that view, for example, that the Royal College of Veterinary Surgeons has instituted its fellowship degree; and the sciences selected as subjects of examination for that degree are among those which not only are required in the ordinary course of your studies, but form the basis of all medicine scientifically prosecuted.

You are called on to acquire some acquaintance with the constitution of dead matter as exhibited by chemistry, of the laws and forms of life in its simple aspects as shown in plants, the structure of animals, and the mechanism and operations of all the organs of the body in health and disease—and this is the basis of all true medicine. It is the pursuit of those studies with intelligence and thoroughness which can alone give dignity to our art in any of its departments; because there is no other means of making it efficient for the objects it has in view, and because the honest pursuit of knowledge for its own sake has a salutary effect on the human mind which is not to be obtained by any other means whatever. Of a truth, the universe is God's, and none can touch His robe in faith without virtue going out from it. In the beginning of your studies, to you as to all students, the curriculum before you must seem rather a hard one; but let me conjure you, especially those of you who are just beginning, not to be contented with the very limited amount of information required for the passing of examinations.

You will find it to be a good thing early to select one of the sciences brought under your notice, and resolve to master it as thoroughly as possible, and continue to cultivate it as an amusement and a pleasure throughout life. By that means you will not only gain great increase of happiness to yourselves, but you will have the proud satisfaction of working in the most effectual manner possible to improve the status of the veterinarian throughout the country. I do not say that you will gain in popularity; the road to that seems no better than the goal. Doubtless, popularity is a pleasant adornment to the prospect of the future, and refreshing as a cup of coffee coming after dessert (spell it either way); but it is a poor thing to depend on for solid support, and he is an unhappy mortal who allows the consideration of popularity to interfere one bit with his prosecution of the path which he knows he ought to follow.

The study of experimental physiology is at present in this country eminently unpopular. We cannot expect that it should have much sympathy from the general public. The general public cares nothing for any truth or science for its own sake, but only for the so-called practical benefits to be derived therefrom; while science refuses to smile on those who love her merely for her fortune. She will not reveal the treasures of her wealth except in response to the following of her for her own sake. One would think that this principle had been long sufficiently patent to be generally understood; and yet the Act passed for the restriction of experiment on animals goes right in the teeth of it. On the injustice and folly of that Act I shall, with your permission, make a few remarks. I speak before an audience devoted to the care of animals, and the more experienced members of which know perfectly well that without experiment the information which you are able to turn to account for the prevention and cure of suffering in animals would not exist. I make that statement in broad terms; for though I am aware that certain licentiates in the healing art have striven to show that experiments on living animals are useless, I own that it surpasses my feeble powers to imagine how, without systematic and continued series of unfettered experiments we could have had any real knowledge of the functions of the nervous system, the action of the blood vessels, the use of the liver, the spleen, the pancreas, or the kidneys, or the place of sugar in the economy; how, in short, we could have had any of that body of useful information which constitutes modern physiology. No doubt phenomena exhibited by experiment may mislead by being misinterpreted; for in all progress there is required not only the presence of facts, but yet more, mind to translate them. But the only cure for such misinterpretations is further study by every means within our reach, indulging in contempt of none. Well, is it common sense that precisely those who are devoting themselves to the studies from which alone we can rationally hope to mitigate suffering in either the domestic animals or in man, should have a restriction and a bondage put on them such as are not applied to any other human being in her Majesty's dominions?

Whatever may be the pain to the victims of physiological experiment (and that you are aware has been grossly exaggerated) those experiments are never performed but with the view of obtaining and spreading a more accurate and complete knowledge of the processes of life. But those who have legislated against experiment—the members of the two Houses of Parliament—are, the great majority of them, sporting men. I have no feeling against sport, in at least some of its forms. But it has been often pointed out, and it was perfectly well known to our legislators, that every sportsman who wounds without killing the animal whose destruction is his delight, performs an unsuccessful experiment, which may and often does inflict the greatest amount of suffering that the animal is capable of feeling. The

special gratification of the gentle angler is to play with the sufferings of his fish, precisely as a cat plays with the mouse which gets into its clutches. And if these, the more innocent forms of amusement of our legislators, not only involve that very kind of cruelty which their legislation professes to wish to put down, but require for their enjoyment an utter carelessness for the fate and feelings of their victims, what shall we say of the fox-hunt and the coursing of hares? The sport in these cases consists not in the mere bodily pain inflicted, but in employing the whole force of the animal's intelligence for its torture, by prolonging the terror which precedes its slaughter. I am not here with the object of lecturing against sport—probably my audience includes many who enjoy it keenly in one form or other—but I want to know how, in the face of these facts, the legislators who passed the Act for the curbing of physiological experiment, can reasonably object to the charge of hypocrisy.

Some months ago, a writer in the *Cornhill Magazine* not altogether averse to experiment, bewailed that scientific men, defending what was defensible, should be so carried away by their feelings as to make that charge. But it is worth while, before coming to a conclusion on that subject, to take into consideration what hypocrisy really is, and the varieties which it presents. Before any man blazes up in holy indignation against hypocrisy being mentioned as an element entering into any of his doings and habits, let him ask himself if there is a single human being entirely free from it? Perhaps we shall not be wrong in surmising that precisely those who have the least hypocrisy about them will be the first to acknowledge the impossibility for any human being to be in all his words and actions entirely free from every taint of such a thing. Truly, it is alike bad form and grossly inexpedient to make point blank such a charge against any individual in argument, even as a climax to what may seem to the disputants a triumphant demonstration of such inconsistency as, once laid bare, stands out so gross that it cannot be easily supposed that any one could be otherwise than wilfully blind to it. Yet that is quite a different matter from admitting that people because well bred and in many ways commendable, are free from hypocrisy. King David acknowledged that he was in his haste when he said, "All men are liars;" but it is worthy of remark that so far from retracting the observation in what the hero of Dean Ramsay's anecdote called his "solemn leisure," he only thanked heaven devoutly for being delivered from their machinations. The royal poet's words were certainly more forcible than polite; and would probably have shocked the religious world of the nineteenth century, could it have been present when they were uttered; but they are a concise and graphic avowal that he had met with deception on every hand, till he felt that he had no man to trust to. Doubtless, no healthy-minded person would foster the cynical vein that finds expression in such an ebullition, except under the smart of unmerited suffering; but while it is a truly horrible state of mind to believe that we are surrounded with people given over without exception to deliberate falsehood, a fairly critical eye cannot fail to detect, not only that every day do statements come under notice deviating from strict accuracy to an extent that might easily have been reduced by consideration on the part of the speakers, but also that the critic himself is subject to the same frailty of human nature which afflicts his neighbours. The frailty is simply this, that time goes hurrying on, carrying with it the exigencies of conversation and the impulses to act on but half-considered judgments and prejudices, faster than any mind, however able and willing, can manage to supply corrected thoughts and words. Such states of matters become habitual, and our sensibilities become more blunted the more that thought is overbalanced by impulsiveness of word and deed.

Decidedly, such considerations make it all the more objectionable to call

your neighbours bad names and accuse them of hypocrisy (or for that part brutality); but they also make it plain that while men of honest intent may easily be guilty of great inconsistency, they become, if the inconsistency be grave, and at the expense of others, and is clearly pointed out by the sufferers, justly liable to be thought hypocritical if they persevere in their injurious course: even although it be not expedient for those sufferers to press the charge.

Hypocrisy, like untruthfulness in other forms, is a thing varying in degree; and it varies in the amount of self-consciousness accompanying it. But its banefulness is not necessarily proportionate with its self-consciousness. On the contrary, it may be maintained with some show of reason that the greatest masters of the art make a point of as soon as possible deceiving themselves first, and thus bring the earnestness of a pseudo-truthfulness into their persuasion of others. But if such depths of subtilty there be—and surely no one can doubt it who has systematically sought to make acquaintance more salutary than pleasant with the springs of action within him—it yet becomes us to be slow to charge any individual man with carrying such an abyss in his heart, especially on the ground of the part he takes in echoing some cry of sensless clamour. Nevertheless, a nation, a community, or a faction may be justly charged in the gross with hypocrisy, although the individuals who compose it may be far from fostering that vice or having it polluting their motives more than it does that of other honest men. For individuals lean one on another, each inclined to believe what others vouch for, when he has a good opinion of those who vouch, or is prejudiced in favour of the statement alleged; and with similar laziness we are all too liable to suppose that others have worked carefully out the conclusions which we accept at their hands, instead of dispassionately working them out for ourselves. Supposing that in this way we have accepted a gross and obvious inconsistency to the injury of some section of our fellows, the fault is venial while our ignorance continues; but as soon as it becomes present to our minds, we shall be demoralised if we have not the courage to shake ourselves free from the injustice to which in our inadvertence we have been lending aid. This being the case, it is the most natural thing in the world that those who suffer from an inconsistent clamour, or sympathise with others who do, should, when they have for a length of time made, to their own thinking, the vileness of the clamour abundantly evident, throw prudence overboard, and in the bitterness of their souls denounce as hypocritical the continued support of injurious and inconsistent allegations. It may not be prudent, it may be far from just—so curious are the inconsistencies which may live together within one honest mind—but it is natural, and it may even be noble.

The applicability of these remarks to the position of physiologists suffering from charges brought against them by the public is obvious. Two Houses of Parliament, consisting in great part of men who delight to scatter pellets at random through the bodies of partridges and hares, and get into enthusiastic animal spirits as they chase the fox with ferocious hounds, instead of putting him as quietly as possible out of pain—those two Houses of Parliament do most honestly allow themselves to be worked up by agitators to a pitch of indignation at the sufferings inflicted on animals in other ways with which they are unfamiliar, and which, therefore, appeal differently to their emotions. For the crack of the rifle is exhilarating to hear; the sharp edge of the surgeon's knife is dreadful even to think about. But while it is easy to believe that they imagine they have done honourably, it is impossible to clear them from inconsistency. It remains the fact that a large number of those who passed the Act which restrains and insults physiologists, do yearly inflict on animals more suffering than is inflicted by all the physiologists

in the world. But, O most honourable men! *Vos Bruti!* who by sense of public duty are unwillingly impelled to stab your benefactors; when these things are pointed out, you cannot plead ignorance of your own inconsistency.

It is a pleasure, however, to have good reason to know that the highly-wrought pictures which are often drawn of the sufferings of animals from experiment and otherwise are full of exaggerations depending on the ignorance or want of consideration of those who have drawn them. So far as those exaggerations depend on erroneous representation of what goes on in physiological laboratories, they have been so often and so fully exposed that those who are still misled by them can scarcely be held as other than willing dupes indulging a morbid relish for scandal. I shall only say that a large number of so-called vivisections are, so far as the sensations of the animals are concerned, the mere infliction of death in the most painless manner possible; and to this number belong a class of important experiments which I call to mind in connection with some remarks made by Cuvier which have been quoted against experiment. Cuvier stated (and doubtless regretted) that it was impossible to isolate the sets of wheels in an animal body and see each working by itself, because the different sets are so interdependent. One can easily understand his meaning and even admit a certain semblance of justification for that statement in his day; but how interested would the great zoologist have been to see, as can be managed now, numbers of single organs, a muscle, a kidney, or a liver, fed and kept alive after total separation from the body! For such an experiment the animal is sacrificed at once, only the blood and the organ to be studied being kept. But though any one for purposes other than scientific is at liberty to kill a dog, and a butcher might do so in the exercise of his calling, provided any one could be got to eat the carcase, the physiologist must not kill it without first obtaining a licence from a state official.

But the exaggerations of which we complain depend also in part on a mistaken estimate of the powers of animals to feel pain; and perhaps this is not so easily understood as may at first sight appear. I do not refer to the numerous convulsive and other reflex actions which might be mistaken by the uninitiated for symptoms of pain, but happen when consciousness is utterly destroyed—such phenomena as, occurring in human beings, lead the relations to ask if they are tokens of suffering, when the physician is able to reply that the patient is completely unconscious of everything. What I wish to show is that the capability of feeling pain is, in even the higher domestic animals, far less than in man.

If we look at the matter critically we shall find that the evidence is distinctly to that effect. In the first place, the skin of the domestic animals is very different from that of man. It is well known that in operations on the human subject the skin is the structure whose injury gives most pain, and hence the surgeon's rule, which was always carefully attended to before the introduction of anæsthetics, to complete the skin cuts rapidly and at once; and that other rule, to make the ends of the wound abrupt, not sloping away in tails, which unnecessarily expose the sensitive substance of the integument. The mere division of the deep structures with a sharp instrument would appear to cause little or no pain, except in the case of nerves. When there is much pulling or violent tearing there may be great pain; but that muscles, vessels, and connective tissue, may be handled and divided without causing any suffering comparable with what is occasioned by division of the skin, is a recognised fact.

When, however, you come to consider the integument of the domestic animals it is not difficult to make sure that you have a much less sensitive structure to deal with. Its microscopic as well as its obvious appearance

would warrant you in expecting that it would be so; and while neither a horse, nor a dog, nor a rabbit is at all slow to make you distinctly understand when it is hurt, it becomes evident from the absence of signs of pain when skin wounds have to be made on them, that they suffer from them very little indeed. When, in various experiments which have greatly advanced physiological knowledge, the pneumogastric nerve of a rabbit is cut down on, supposing the animal not to have been chloroformed, it will be seen to suffer little inconvenience from the skin wound, and none from the search among the structures underneath; in fact, obviously much less annoyance than it would suffer from the administration of chloroform, which, strange as it may seem to some ladies, it abominates. But when the nerve is divided a sharp cry of agony at once tells, not only the moment of agony, but how far the animal had previously been from anything of the sort. Happily it ceases on the instant, and the rabbit shows no further discomposure.

So then, the rabbit is capable of feeling acute pain, but it is quite certain that skin wounds give it very little trouble. As to the pain which it does feel, though no physiologist would give any animal a moment's pain unnecessarily, it is well to note some circumstances which probably make it less than it seems. Even in man we see the greatest differences in different individuals as regards capacity for feeling pain. There can be no doubt that the actual sensation differs in different persons. That which will give acutest suffering to one man will to some others give little annoyance. Of course we must guard against estimating the pain by the outcry made, and we have, in great measure, to rely on the testimony of the persons, as we have no accurate means of measuring their sensations; but, speaking of the pain itself, apart from the power of bearing it, which ought also to be increased by proper education, I do not suppose that there can be any serious doubt that the pain occasioned by a given amount of lesion varies according to the fineness of the impressibility of the nervous system, and that civilisation and education, as well as certain alterations of nutrition in disease, do greatly enlarge the capacity for feeling pain.

If this be so, and there are surely few who doubt it, it seems evident that, as we descend the scale of being, even among mammals, the sensation of pain must become modified. At the same time, we must take care not to confuse position in the scale of intelligence with impressibility of the nervous system. One does not require to illustrate from man to find great variety of nervous refinement within the limits of a single species; you have it as well illustrated in horses and in dogs. I do not doubt that a high-bred horse or a high-bred dog has a greater capacity for pain than the horse or dog of low degree. All I say is, that the total sum of possible consciousness in an animal is a factor which cannot be left out in estimating the maximum intensity of sensation possible to it, and when we come down to animals of so feeble intelligence as rabbits, it is a factor which must be of considerable importance.

But the amount of intelligence has a far more important bearing than this on the character of the pain possible to an animal. The actual pain produced at the moment by a physical lesion constitutes but a small portion of the idea of pain as it presents itself to our minds. The accessories of anticipation, memory, and associations play an important part; and it is the effect of the images presented by these to the mind which gives rise to all the suffering which we term horror. Doubtless the more intelligent mammals have both memory and association of ideas largely developed. But as to anticipation, they have no chance of such a thing in a properly regulated laboratory; and my contention is that in the brutes, anticipation, memory, and association have a so much less amount of mind than in man for their origin and

operation, that the images which they produce must be both much fewer and much less wrought up into horrible phantoms; in fact, that we cannot well estimate how much of the complex machinery of pain, as we know it, the lower animals are altogether free from. At the same time, it is so perfectly evident that large capacity for pain is left to such animals as the horse and the dog that it may be safely affirmed that no one, at least no physiologist, would choose those animals for an experiment which could equally well be performed on a less highly organised animal. Perhaps, indeed, it would be pretty accurate to assume that the sympathy of physiologists for the lower animals stands in about the same ratio to that of sporting legislators, as the intelligence of a dog does to that of a rabbit. However, no one can doubt that the mental constitution of a rabbit is so limited, that it is quite incapable of the suffering of which a horse or a dog is capable.

I have confined my remarks hitherto to mammals, and am well aware that to many they may seem to be so speculative as to have little cogency, though I think they ought to have a not inconsiderable effect in moderating, to those who are animated by sincere affection for animals, the imaginative vision which has been so carefully fostered in them by professional agitators. But, if we turn to the cold-blooded animals, the line of argument which I have pursued becomes enormously more important. It is a totally untenable position to suppose that a frog can possibly be capable of feeling anything nearly resembling what we know as pain. The consciousness of a frog is something so far removed from that of a human being, that it is impossible to imagine any condition for our minds to liken it to. That may be taken as certain from the imperfect development of its brain, as compared with the brains of higher animals. That difference of brain structure intimates an entirely different psychical constitution, in which pain, like every other impression, must differ enormously from all which we experience in ourselves.

The organisation of fishes is even lower; and we may allow our friends to fish in peace, with quiet consciences; that is to say, if they have not been persecuting their fellow-men. But the Act of 1876 extends to all vertebrata, and, therefore, no man who helped to pass it has any moral right to catch salmon with the rod, especially without a bottle of chloroform attached to his hook.

I am not an experimenter on animals, and have no personal interest to serve in the remarks which I have made, but it is certainly the duty of those who are thus free, and who, from the nature of their pursuits, are most familiar with the magnitude of the debt which humanity owes to experiment—it is their duty to aid in opposing, so far as they can, the spirit of persecution against experimenters.

It is so pleasant to pose before the public as possessors of great goodness of heart, that it is no wonder that many who were engaged in the agitation which led to the Act of 1876 should be stimulated to carry the game further, as they still try to do. But it almost surpasses belief that a Lord Chief Justice of England should deliberately shut his eyes against all consideration of justice, and that the mitred leaders of the flock in the ways of righteousness should be his associates in a proposition so mad that it may well arouse alarm. Plainly, even the Act of 1876 ought not to be quietly acquiesced in by the nation as if it were right. Martin's Act is amply sufficient for the repression of senseless experiments on warm-blooded animals by tyros; and if there be among those devoted to science aught of a want of care and right feeling in any instance, which as an exception to the general rule there may be, legislation is not the appropriate means to prevent it. It is in the crude stages of scientific life that useless cruelties are likely to occur; and by favouring the free advance of science the nation will most effectually prevent their occurrence. It is by more complete scientific education within the pro-

fession that we ought to try to get rid of such experiments as those which Mr. Lawson Tait of Birmingham acknowledges having performed fifteen years ago, accompanying the acknowledgment with remarks which certainly show how useless and improper in his hands those vivisections were. I do not know, however, what some of his fellow-agitators will think of the following remarks by the same writer:—"The doctrine of evolution has affected religion as it has everything else, if indeed it is not establishing an altogether new form of faith, which is making an unrecognised, certainly an unmeasured, progress amongst us. Admitting that the so-called lower animals are part of ourselves, in being of one scheme and differing from us only in degree, no matter how they be considered, is to admit they have equal rights." Equal rights! One would like to know if it is proposed that the doors of stables, kennels, and hencoops are to be opened in vindication of their liberty. Are vegetarianism and cannibalism the alternatives set before us? And does this estimable surgeon consider it no more serious a matter to take the life of a patient than to kill a sheep? He must be joking irreverently at his friends, and alluding to the "so-called lower animals" being "part" of lords and ladies after they have been eaten by them; for in another place he regrets that Quaker's blood was not injected into the veins of Archbishop Laud to make that prelate peaceful.

The Act of 1876 is simply an ungrateful singling out for police supervision of the one particular class of men to whom the age owes everything in the way of improved health and alleviation of the diseases of man and brute which distinguishes it from bygone times; and, passed by the men by whom it has been passed, however excellent their motives, it is a public scandal. The notorious habits of our lawmakers, whether good or bad in themselves, brand on the pages of the Statute Book which contain it, a comment which, however little we may wish to apply it to individuals, flares out to our shame before all nations as no other than that hated word hypocrisy.

How shall this blot be removed? There are only two means. One is to put an end to all sport practised at the expense of any vertebrate animal, and thus show that the nation which sympathises with hundreds of animals suffering at the hands of physiologists, sympathises also with the tens of thousands of animals which suffer to a greater degree at the hands of sportsmen; the other is to rescind the law which at present so hampers research. The more importance that is given to the limits of possible pain in brute vertebrates, and more particularly the less intelligent of them, the less is the need of an Act interfering with experiment; while on the other hand, the less these limits are believed in, the graver does the case become against the sportsman. As to the right to inflict pain; if there be none, there can be no right to inflict death. If there be a right, it depends on the amount of the pain and the importance of the object. The amount of pain, calculated either by intensity or numbers, which is inflicted by the sportsmen, is much greater than that inflicted by the physiologists. The object of the physiologists and physicians is increase of knowledge and alleviation of suffering, both among men and brutes; the object of sportsmen is merely amusement, which they believe to be morally innocent; and I, for one, am not disposed in most instances to contradict them.

In the economy of the world pain has its place. But if it were in all circumstances wrong to inflict it, it could not have existed under the domination of an all-merciful God. The comparative importance of ends must be constantly kept in view; and surely they whose science, founded on experiment, has spread its beneficent influence over man and beast, and gained for them all the alleviation of suffering which has been gained, may be held to endorse, more effectually than the President of the Anti-Vivisection Society, the sentiment toward the close of his illustrious relative's immortal

poem, directed against the senseless slaughter of birds for mere amusement —a poem as yet apparently unfamiliar to the ears of the sentimental egotists who think it well that the poor of humanity should be the victims of unguided experiment, that doctors may learn skill before they are called in by them.

"Farewell, farewell! but this I tell
To thee, thou wedding guest!
He prayeth well, who loveth well,
Both *man*, and bird, and beast.
He prayeth best, who loveth best,
All things both great and small;
For the dear God who loveth *us*,
He made and loveth all."

At the close, Principal WALLEY, of the Edinburgh Veterinary College, awarded a vote of thanks to the lecturer for his able address.

ROYAL (DICK'S) VETERINARY COLLEGE.

ON Wednesday, 1st November, Professor M'Fadyean delivered the inaugural address to the students attending the Royal (Dick's) Veterinary College, in the theatre of the college, Clyde Street. There was a large attendance, and the chair was occupied by Bailie Anderson.

The CHAIRMAN remarked that he need scarcely say how heartily the magistrates and council congratulated the professors and students on the opening of another session, and on the continued prosperity of the college. The Town Council had always looked upon this trust which had been given to them as one of very considerable importance, both as regarded its own character and as regarded the city; and also, he might add, because of the respect which so many of them entertained towards the founder of the college, the late Professor Dick (applause). Many of them remembered his marked features and his marked character all through; and he was glad to learn that by-and-by, although the Professor had left a most worthy memorial in his reputation, and in this college which he had founded, they would have a memorial statue inaugurated to him inside the college which would bring his features within the knowledge of those who did not know him during life (applause). He thought that, looking to the comparatively short period the college had been under the control of the Town Council, they had reason to congratulate themselves upon the success which had attended the appointment of professors from time to time. He knew of no better evidence of the success in this department than that few of the professors were allowed to remain long among them. He congratulated Professor M'Fadyean on attaining last session the degree of Bachelor of Medicine and Master of Surgery. Another proof of the success of the college was that out of eighty candidates for inspector in the Council of the Irish Veterinary Staff, only two were chosen, and they were graduates of this college, and in the last army examination three were successful, of whom two were graduates of this college (applause).

Professor M'FADYEAN then delivered his inaugural address, which was as follows:—

We are met to-day to inaugurate the sixtieth session of the Edinburgh Veterinary College. On the 24th of November, 1823, the introductory lecture of the first session was delivered by Professor Dick in the Calton Convening Rooms, and the history of veterinary science in this country may be said to date from that occasion. It is true that previous to that time there existed throughout the country a set of men variously designated as "cow-leeches," "farriers," or "cow-doctors," who generally, in combination

with some other calling, ministered to the ailments of the domestic animals. These men received no particular training for the calling that they followed. They were lamentably ignorant of the nature of the diseases that came before them, and their methods of treatment were dictated by a blind empiricism, or by a still blinder superstition.

It need not be doubted that, even at that time, there existed among stock-owners a desire to have their sick animals rationally treated by men specially educated for the purpose, and it became the early ambition of Professor Dick to supply the want. With this object he attended the classes of the Medical and Surgical Schools of Edinburgh, and in the years 1817 and 1818 he studied at the London Veterinary College; obtaining in the latter year the certificate which that school was in the habit of granting to its pupils. On his return to Edinburgh he engaged in the practice of his profession, and began to give short courses of lectures on veterinary subjects. In the spring of 1823, he was fortunate enough to have his efforts brought under the notice of the Highland and Agricultural Society by Mr. Johnston, a merchant of this city. A committee was forthwith appointed to promote veterinary education, and in the same year Professor Dick's school was formally opened, under the auspices of the Society. The entire course consisted of forty-six lectures. The number of students was twenty-five, and each of them paid the moderate sum of two guineas.

On an occasion like this, one might be pardoned for dwelling at length on the development of veterinary education, and on the consequent rise of the profession during the last half-century. At the present time, however, there is perhaps a dangerous proneness to estimate our position by looking back along the way that we have come, rather than by looking forward in the direction in which we ought to advance. Indeed, in many quarters there is not only a tendency to magnify the progress that our profession has made, but there is even a serious misconception as to wherein true progress consists. Constant complaint is heard that, as a profession, we are not accorded that place in the public estimation to which we are justly entitled, and many talk as if our position could be made better by Acts of Parliament and things of that nature. The complaint is probably unfounded. It must be confessed that we are yet far from occupying that position in the public regard which it is our ambition to attain to; but it will be wholesome for us to accept the public estimate as the just one, and to set ourselves to find out how our claims to a higher position may be enhanced.

Our title to a higher place must rest on an increased knowledge of the diseases affecting the domestic animals, and on an increased power to cure or to prevent these diseases. And if we accept that as a definition of genuine progress, we must humbly confess that though our march may have been steady, it has been very slow. We cannot institute a comparison between the veterinary literature of to-day and that of the beginning of the century, because at the latter date there did not exist any literature worthy of the name. But even yet, veterinary literature is scanty, and what is of it is not wholly divested of superstition. Will it be believed that there is hardly an important disease peculiar to the domestic animals the pathology of which is fully and accurately known? Such, however, is the case, and most of the exceptions are diseases where our knowledge has been increased by investigators outside our own profession. It is true that, for most of the diseases, there has been framed some sort of a pathology, which, however, is at the best merely provisional, and to be retained only till minute investigation and extended observation shall have furnished us with the evidence necessary for trustworthy conclusions. It is along this line of uninvestigated diseases that our forces are to be marshalled and the battle fought. That but little of this work has yet been done, is because the individual members

of our profession have not had that scientific training which is necessary to fit them for the task, and progress will be made possible only by the proper education of the veterinary student. It is the character of the units of the profession that determines the character of the profession as a body. The average veterinary practitioner at any particular period reflects the state of veterinary education at the time when he graduated. The quality and extent of the teaching afforded by the schools is thus of paramount importance, and whatever progress we have made, and are still making as a profession, may be traced to the development of veterinary education.

(*To be continued.*)

Notes and News.

MEDICATED MOSS-PEAT POWDER.—Dr. Neuberg has recently introduced in the clinic of Professor Esmarch, of Kiel, a method of wound dressing to which he was led in the following way :—Two years ago a labourer one day appeared who had sustained a compound fracture of both bones of the forearm eight or ten days previously, with considerable laceration. He had got a comrade to surround the whole forearm at once with a thick paste of peat mould, on which was laid a rough splint of wood. When he came to the clinic he was in good general health, and on clearing off the mould the wound was found to be healing beautifully, without any sign of suppuration. A Listerian dressing was applied, and the limb better fixed, and the man made a good recovery. Dr. Neuberg was led to investigate the properties of peat mould with reference to wound-dressing, and he found that the dust resulting from the manufacture of blocks of peat with the circular saw (as carried on in Schleswig-Holstein), and which is very light in weight and in colour, has a powerful affinity for ammonia, carbonate of ammonia, and bad-smelling materials generally, and takes up nine times its own weight of water. For dressing wounds, Dr. Neuberg now uses two bags of gauze (one double the other in size) wrung out in carbolic solution and filled with mould, the mould in the smaller bag containing two and a half per cent. of iodoform, that in the larger saturated with five per cent. carbolic solution. The smaller bag is placed on the wound directly after disinfection of the latter with carbolic solution, zinc chloride, or iodoform, and the larger bag is placed above, the whole being kept in place by a gauze bandage. The dressing remains on mostly a fortnight or more. Excellent results have been thus obtained. The advantages claimed for the method are these :—1. A given quantity of the mould takes up more fluid than jute, gauze, or cotton wool. If it be slightly moistened its absorbent power is increased. 2. It has great power of absorbing products of decomposition of organic substances, and hence prevents these occurring. 3. The moistened mould is a very soft, but still elastic substance, and so is easily placed in the required position in the bags before applying them to the inequalities of the body. 4. It is the cheapest of known antiseptic dressings, one pennyworth being sufficient for one dressing, and still less if the preparation with an antiseptic be left out. 5. It makes a very suitable pad for all purposes when enclosed in gauze.

Correspondence, etc.

THE BOARD OF EXAMINERS.

SIR,—Now that the present members of Council have elected the Board of Examiners, perhaps you will kindly allow me space for a few lines as to the result of their labours, as I presume it is competent for a member of a corporate body to comment on the proceedings of its Council.

The office of examiner is most important. The examiners, in fact, make the profession—they determine who shall and who shall not be its members.

I. The Royal College of Veterinary Surgeons is the "body corporate" of the United Kingdom. It professes to regard with equal favour the veterinary surgeons of England, of Scotland, and of Ireland. Good men there are in each country, while diversities of opinion and different modes of practice prevail. One would therefore naturally have thought that the Council would have chosen a few of the very best of these men from the three divisions of the kingdom, and formed a National Examining Board worthy of the name. No. Eight or nine gentlemen resident in London, one in Manchester, and the others in English counties, are now the sole members of the Examining Board. When a Scotchman goes south of the Tweed, or an Irishman crosses the Channel, and thinks as his English friends think, and does as they do, his nationality is little more than a name. The Examining Board of the Royal College of Veterinary Surgeons is therefore now—deny it who may—an English-London Board; there is not a true representative Scotch or Irish practitioner on it.

II. Now, more than ever, we have need of good examiners. The colleges swarm with students; year by year their number is increasing. At the examining table the interests of the profession and those of the professors and teachers are not always alike. The prosperity of the schools and the success of their teaching depend greatly on the number of students who pass, and the marks of the Examining Board. Gentlemen who have resigned, or been obliged to resign, their appointments in teaching institutions can scarcely fail to have some feeling towards their late college and colleagues. Their personal acquaintance, too, with the students and the students' parents or friends, may be inconveniently great, and one would have thought that the members of Council in their elections would have avoided such gentlemen. Instead of that, of four examiners in horse and cattle practice (Final Examination), two are ex-professors of London colleges, while comparative anatomy and chemistry in Scotland are confided to the care of a gentleman who for years was one of the supports of one of the Scotch schools. Do the members of the profession—in its interest and their own—wish ex-professors and kind, gentlemanly men as examiners? Or men who are not only without suspicion, but above it—men who will show much kindness but no great favour, passing 100 students if they deserve it, or relegating 50 per cent. to their studies if otherwise?

III. The veterinary editor of an agricultural paper does generally no great good to his profession or professional brethren. One would scarcely have expected to find the veterinary or ex-veterinary editor of a leading Scotch agricultural newspaper on the Examining Board of the Royal College of Veterinary Surgeons. No one can possibly respect and admire that gentleman more than I do, for his many *other* good qualities, and seeing that these have gained him a seat on the Board, we trust that he will now—why not before?—scorn to be the veterinary editor of an agricultural journal.

IV. On the diplomas of students examined in London will be inscribed the names of Professor Voelcker and Dr. Burdon-Sanderson; on those of Edinburgh and Glasgow, Mr. Vaughan and Mr. W. A. Taylor, Manchester. When

such eminent men were re-elected for London, could not Professor Crum-Brown and Professor Turner have been retained for Scotland? I am not one of those who think that veterinary surgeons cannot examine veterinary students, even in such subjects as botany, chemistry, and physiology. From the *Scotsman* of last week, I find that Professor McCall thinks the "number of such men is small;" and Professor McFadyean says that the "appointment of veterinary surgeons as examiners in them has destroyed the complete confidence which previously inspired teachers and students in the Examining Board." The humility and diffidence of these talented professors is scarcely worth notice. They may rest assured that veterinary surgeons—especially when appointed for five years—will always be found fit to examine the students of the Glasgow and Edinburgh Colleges in any subject. A few bright, clever young fellows, and some earnest, hard-working students there are each year among them; on the others there is room for improvement. At the same time, I cannot but sympathise with the professors when the successors of Professors Crum-Brown and Turner are an ex-lecturer from a rival school, and a young Manchester gentleman, whose name in connection with physiology has never—to my knowledge—been heard of.

V. If I had the honour of being an examiner in Horse or Cattle practice, and a student were to tell me that he would use as many drugs as some practitioners use, that his shelves would groan under a load of bottles, and "drinks," and balls, that daily and almost hourly doses would be his rule, and hand me a certificate condemning a horse for every trifling ailment or blemish—with or without the real cause of unsoundness inscribed thereon—I candidly confess *I would reject that student.* Such things may suit other parts: we don't wish them here; and where is our examiner to prevent it? Errors there are, doubtless, in Scotch practice; they are well provided against. When a Scotch veterinary surgeon's son or pupil comes up and gives his father or master's views and opinions, and their plain, simple, but right treatment, will his English examiners understand him? Three Englishmen and London-Scotchmen—sole examiners in horse and cattle practice for Great Britain and Ireland—two of them ex-professors! It is sickening to think of it.

The London-English "bacterium" always present in the R.C.V.S. is again showing signs of active development. Will a few further "cultivations" once more produce "attenuation, degeneration," and disorganisation? I, for one, have gradually returned to my old way of thinking. I am prouder than ever of being a Highland Society man. Three or four years ago, when a few of the examiners in the Society's Hall introduced the subject, and paved the way for our own annihilation as examiners, and the commencement of the arrangement between the Society and the R.C.V.S.—the credit of that arrangement being primarily due to Mr. Tom Taylor, of Manchester—I thought then we did right. I fear now, after the appointment of these English and London-Scotch Examiners, that we did wrong. The last Board of the Society, as a whole, was a much better one for Scotland than the one the Council has now palmed on us. The Council, in my opinion, by appointing such gentlemen only, more especially in horse and cattle practice, has done great injustice both to Scotland and Ireland, and we have more need than ever for a check on them.

One or two items there are of a more pleasant nature. Your own appointment, sir, and that of Mr. Cox and some of the former members of the Board, is very satisfactory. It is strange that an ex-professor should have been preferred for anatomy in the south. My own nomination for the Scotch Board is of little importance, save in the way of very sincere thanks to some few members of Council. One remark—though foreign to the subject—you will perhaps allow me. If, sir, by your examinations you will make a certain

class of students dissect a little more, and dirty their fingers considerably more, you will confer a favour on them for which, in after years, they, I am sure, will be grateful. Book-anatomy, as you doubtless know, is too common among them; and what will book-anatomy do for them in actual practice? A book-anatomist at an important *post-mortem* examination, or such like, is a sorry figure. This is a matter I have often spoken of.

It is pleasing, also, to find morbid anatomy and botany in the hands of veterinary surgeons; though why a colleague should have been allotted to you in the former subject, seeing we have only two examiners in horse practice, or why a southern army veterinary surgeon should be sent to Scotland to examine in the latter, I am at a loss to know.

Bringing these desultory remarks to a close, if I am allowed any friendly suggestions in the way of making the best of matters for the ensuing five years—as I presume the appointments cannot be cancelled—they are simply:—that ex-professors will kindly at the examinations forget their colleges and friends; that agricultural papers be set aside; that studies in botany, chemistry and physiology for Scotland be actively prosecuted; and, above all, that the suggestion of your correspondent, Mr. Cox, in last month's issue be put in operation; that two other practical examiners—one Scotch and one Irish—be added to the horse and cattle practice tables respectively, making, with the two English gentlemen already appointed, four examiners on each table. One great shortcoming of the Examining Board is, I think, numbers. There is such a thing as what is roughly termed, "pumping an examiner dry," and if one examiner has to examine fifty or sixty students "right away," the last students will probably have most of his questions and answers by heart, while the soundness or unsoundness of the subjects of his practical examinations will, by a process peculiar to students, be "telephoned."

I trust, sir, you will excuse my trespassing so much on your space. If, in my remarks, I have hurt any one's feelings *undeservedly*, I am sorry for it. The Council have not shown any great delicacy towards the opinions or feelings of their Scotch or Irish constituents.—I am, sir, yours very truly,

Slateford, 10*th November*, 1882. C. CUNNINGHAM.

"IS SYSTEMATIC TRADING IN HORSES COMPATIBLE WITH THE CALLING OF VETERINARY SURGERY?"

DEAR MR. EDITOR,—Under the above heading, Mr. Henry Dyer has, in your November issue, raised a question which I would rather see put,—"Is trading in horses compatible with the calling of veterinary surgery?" The difference is apparent!

I only wish that an outspoken opinion on this subject would ensure the prompt suppression of a practice which tarnishes and dishonours the fair fame of a noble profession.

If it will be any satisfaction to Mr. Dyer to know that at least one member of the profession is in sympathy with his views upon this matter, it will afford me much pleasure, through your courtesy, to give him the assurance that I heartily endorse the sentiments so ably advanced in his communication to your Journal. Only a short time ago, I took the opportunity to express to a medical friend in London, in rather round terms, my great disgust at the left-handed sort of manner in which the sister profession treat the veterinary profession as a whole. His reply, in so many words, amounted to this: that while there were many excellent and noteworthy exceptions, there was far too much of the horse-dealer about veterinary surgeons, as a class, for his profession to meet them on terms of equality; remarking further, that it was singular that men who seemed to have most to do with the noblest of animals appeared so frequently to suffer moral degradation.

I go so far as to say, that a veterinary surgeon, if he properly estimates the value of a high standing in his profession, had far better never buy a horse for purposes of re-sale, neither as an occasional transaction, nor to oblige an influential client; and, I may add, I practise what I preach.

The Apostle Paul teaches that we should "abstain from all appearance of evil," and depend upon it this is the wisest course to adopt. Once let a veterinary surgeon deal in horses, even though it be but a single transaction, and he lays himself open to be classed as a horse-dealer immediately. Why this trade always has such an objectionable flavour about it to the refined mind, it would perhaps not be difficult to explain; but into this it is not necessary to go; we take things as we find them Apart, however, from this view of the question, it is altogether *infra dig.* for a professional man to dabble in trade; not that a tradesman may not be socially the equal of a professional man, but because it is undesirable that the mind of one whose whole time is supposed to be given up to science, should be pre-occupied with the trammels of commercial anxiety; and if a man is obliged to resort to this sort of thing in order to make a living, it is quite plain that it would be better both for himself and others if he had never entered the profession.

What with physiology, pathology, and pathogenesy, there is quite enough for the average mind to work at, if we are individually to keep abreast of the times; and to do this, it seems to me, to the best of ability, is the duty of every honest and consistent man in the profession.

I am, dear Mr. Editor, yours faithfully,

248, Upper Parliament Street, Liverpool, J. SUTCLIFFE HURNDALL.
17th November, 1882.

SIR,—Although not possessing the pen of a ready writer, I cannot allow Mr. Dyer's admirable letter in last month's VETERINARY JOURNAL to pass without expressing my entire concurrence with his opinions.

The subject which that gentleman has the courage to attack is, in my opinion, one which is perfectly "ripe" for the lancet of fair and open discussion; therefore no apology is necessary should the feelings of any veterinary surgeon *cum* horse-dealer be injured.

Rather let the "Amen Deum" come from those whose unprofessional actions make the remarks necessary.

The *incubus*, however, which retards the advancement in public estimation of our profession is hydra-headed. Horse-dealing is undoubtedly a prominent evil, but I venture to affirm that the custom of making *shoeing forges* almost inevitable accompaniments in the practice of a M.R.C.V.S. is not less a humiliating fact.

Any one coming from country practice (where this degrading *mesalliance* seems much seldomer contracted) to a city district will very soon find himself handicapped, unless, like his brother professionals, he lowers his *status* by becoming a master farrier and touts for shoeing.

Can anything be more incongruous (I could use a stronger expression) than the spectacle of a scientific man, a Member—aye, and very often a Fellow—of that Royal College of Veterinary Surgeons on which our Government has so recently conferred the privilege of a Penal Act, engaged in fawning upon some paltry horse-owner, or mayhap foreman, so that he may obtain the favour (and profit) of shoeing his horses?

The sign-boards of such men are a curiously correct confirmation of the *locus standi* they hold: "———, M.R.C.V.S.," and then how often is added the mystic L. Perhaps I err in thinking this superfluous, not to say stupid; as Prof. Axe informs us, students in his teaching establishment enjoy facilities for improvement all others must lack.

Then "Veterinary Surgeon" follows, to explain, I suppose, the meaning of these awful symbols. "Horses examined as to soundness." This must be an exceptional qualification, or why mention it any more than "Balls administered." "Veterinary Shoeing Forge." Does this mean that each animal sent there will be shod under the direct personal supervision of a qualified veterinary surgeon? If so, what a farce it all is! "Contracts taken for shoeing and doctoring." Save the mark! This is but a very mild and frequent example of the position we choose to occupy in the eyes of the general public.

At present it is simply nauseating to hear some of our so-called eminent city practitioners delivering their trite inflated platitudes about the advancement and improvement of our profession, whilst their names are displayed in this tradesman-like fashion over scores of forge doors.

This horse-shoeing, dealing, and jobbing must entirely cease to be carried on by the members of our profession if we desire to raise ourselves above the level of the coming licentiate.

A step in this direction would be gained were it compulsory that all Fellows should confine themselves to the practice of their *profession* only. Surely, Mr. Editor, the time has come when, with a Penal Act and an improved educational course, we should throw off these connections and prove ourselves worthy of our country and profession. EXCELSIOR.

TO CORRESPONDENTS.

A CANDIDATE.—A candidate for the Fellowship degree of the Royal College of Veterinary Surgeons must be a member, must have been in practice for five years, and must produce a certificate of competency signed by three Fellows. There is no prejudice otherwise, and acting as manager or assistant for any part or the entire five years is no obstacle.

M. R.C.V.S.—"Bursal enlargements, as windgalls, thoroughpins, and bog-spavin," do not constitute unsoundness unless disease or lameness is present. Their existence, however, should lead to a suspicion of disease, and in a warranty, or in giving an opinion, it is as well to mention their presence, even if there is no disease detectable.

A NUMBER of papers and communications pressed out of this month's Journal will appear in our next.

Communications, Books, Journals, etc., Received.

COMMUNICATIONS have been received from J. A. Nunn, A.V.D., India; R. C. Trigger, Newcastle; A. H. Santy, Norwich; J. McFadyean, Edinburgh; A. Broad, London; Professor McCall, Glasgow; C. Cunningham, Slateford; Professor Tormay, Buda-Pesth; J. W. Hill, Wolverhampton; J. B. Wolstenholme, Manchester; J. T. Gregory, Southsea; W. O. Williams, Edinburgh; J. Moir, Armagh; W. Masters, Southsea; T. Cave, Nottingham; J. Cooke, Rotherham; W. Broughton, Leeds; J. S. Hurrdall, Liverpool; J. J. Sperring, Dublin; "Excelsior."

BOOKS AND PAMPHLETS: *H. D. Bigelow, M.D.*, Hydrophobia; *A. Laosson*, Ueber die Geschichte und die Contagiosität der Stanpe; *E. Reichardt*, Desinfection und desinficirende Mittel; *L. V. Thanhoffer*, Ueber Zuchtlähme; *P. Salvi*, La Russie Chevaline et les courses de Résistance; *E. Semmer*, Der Milzbrand und das Milzbrandcontagium; Bulletin de la Société Centrale de Médecine Vétérinaire.

JOURNALS, etc.—*Archiv für Wissenschaftliche und Practische Thierheilkunde; Wochenschrift für Thierheilkunde und Viehzucht; Journal de Méd. Vétérinaire et de Zootechnie; Revue Vétérinaire; American Veterinary Review; Archives Vétérinaire; Recueil de Méd. Vétérinaire; Australasian Veterinary Journal; American Live Stock Journal; Echo Vétérinaire; Proceedings of the Medical Society of Kings; Annales de Méd. Vétérinaire; Live Stock Journal; Lancet; Breeder's Gazette; Nature; Clinica Veterinaira; Field, Forest, and Stream; Oesterreichische Vierteljahresschrift für Wissenschaftliche Veterinärkunde.*

NEWSPAPERS.—*Freeman's Journal; Dublin Evening Mail; Lahore Civil and Military Gazette; Manchester Guardian; Scotsman; North British Agriculturist; Glasgow Herald.*